

Industrial

November-December 1947

Standardization



1947 Annual Meeting Issue

American Standards Association

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 Amer Ladder Inst
 Amer Petroleum Inst
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 Amer Soc for Testing Materials
 Amer Soc of Tool Engrs, Inc
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 Anti-Friction Bearing Mfrs Assn, Inc
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 Corn Industries Research Foundation
 Elec Light and Power Group: Assn of Edison Illum Cos
 Edison Elec Inst

Federal Works Agency
 Fire Protection Group:
 Associated Factory Mutual
 Fire Ins Cos
 Nat Bd of Fire Underwriters
 Nat Fire Protection Assn
 Underwriters' Labs, Inc
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 Heating, Piping and Air Conditioning Contractors Nat Assn
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Outdoor Advertising Assn of Amer, Inc
 Oxychloride Cement Assn
 Photographic Mfrs Group:
 Anso Div of Gen Aniline & Film Corp
 Eastman Kodak Co
 E. I. du Pont de Nemours & Co, Photo Products Dept
 Portland Cement Assn
 Radio Mfrs Assn
 Scientific Apparatus Makers of Amer
 Screw Industry Stds Com:
 Machine Screw Nut Bur
 Sheet Metal Screw Statistical Service
 U.S. Cap Screw Service Bur
 U.S. Machine Screw Service Bur
 U.S. Wood Screw Service Bur
 Soc of Automotive Engrs, Inc
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 Telephone Group:
 Bell Tel System
 U.S. Independent Tel Assn
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 U.S. Dept of Commerce
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Readers Write

Refrigeration Standards Being Prepared for ASA

*Universal Cooler Division
 International Detrola Corp
 Marion, Ohio*

Gentlemen: We have been working strenuously for the last two months on standards for our industry that we hope will be turned over to ASA in the near future. Our refrigeration association, ACRMA, is active in this work, and your publication, INDUSTRIAL STANDARDIZATION, is going to be very helpful in our study.

W. W. HIGHAM
 Director of Engineering
 Refrigeration Division

See Benefits of Drafting Standards

*Patent Drawing Service
 Brooklyn, New York*

Gentlemen: Read with interest the September issue of INDUSTRIAL STANDARDIZATION, and especially the article by George E. Rowbotham, "Dictionary for Drawings."

Such a work would prove most helpful, as pointed out, both to drafting schools and drafting rooms. Many are the profits that would accrue as the result of such a standard. I am sure that there are many more than the eight that the article lists.

In the patent drafting department of one organization we frequently received drawings that were made up in the production drafting departments of the same organization, on which the symbols, measurements, signs, etc., varied "all over the lot." It doesn't seem possible that within one organization there could be so many methods for indicating the same information.

We can see only good that would come from such a standardization and feel the sooner it is made available, the better.

JOSEPH T. HARROP

*Mack Manufacturing Corporation
 Allentown, Pennsylvania*

Gentlemen: The proposals contained in Mr Rowbotham's article, "Dictionary for Drawings," reprinted in the Sep-

Company Members

More than 2100 companies hold membership either directly or by group arrangement through their respective trade associations

tember 1947 issue of INDUSTRIAL STANDARDIZATION, are certainly a much desired advancement in the standardization of drafting. Overall benefits to industry would certainly be derived by supplying an authentic reference for draftsmen, engineers, and users of drawings. We would appreciate the opportunity to participate in the preparation of such a drafting standard.

K. G. ROTH
Standards Engineer

Seek Information on Intermediate Stair Rails

California Utilities Safety Committee
Los Angeles, California

Gentlemen: The Division of Industrial Safety of the State of California is proposing a definition for standard stair railings which would require an intermediate rail on all stairways. It is not the practice in the utilities or petroleum industries in California to place midrails under 30-in. stair railings. We do not think they are necessary for reasonable safety. In my opinion the ASA did not intend to imply that a midrail was needed on all stair rails. If this is true, please let me know immediately so that steps can be taken to correct the California Safety Orders before they become final.

A. W. TURNER
Safety Engineer
Co-Chairman

• • • The American Standard Safety Code for Floor and Wall Openings, Railings, and Toe Boards, A12-1932, states that intermediate rails shall not be required where stairs are 22 in. or less in width.

Our Front Cover

Howard Coonley, chairman of the ASA Executive Committee, Edward P. Warner, president of the International Civil Aviation Organization, and Frederick R. Lack, ASA president, are shown in an informal moment after Mr Warner's speech at the Annual Meeting luncheon at the Waldorf-Astoria October 23.

(See page 272)

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In This Issue

The Twenty-Ninth Annual Meeting—

Highlights 1947 Annual Meeting.....	265
Toward More Efficient Management, By Frederick R. Lack.....	265
Survey Committee Studies ASA.....	266
Board Emphasizes Standards Role to Strengthen National Economy...	266
Board and Council Consider Changes in ASA Constitution.....	267
What We Are Doing, By E. C. Crittenden.....	268
Company Member Committee Hears Reports on Standards.....	270
Standards in International Flying, By Edward P. Warner.....	272
International Cooperation by Industry Deemed Vital to American Economy, By Cyril Ainsworth.....	274

Associations and Government—

ASCE Names Barnett to Highway Traffic Committee.....	280
General Armstrong Joins U. S. Pipe and Foundry Company.....	281
New NIGP Standards Committee to Apply Simplification to Public Purchasing	282
NBS Reorganization Adds New Divisions.....	284

Electrical—

Improvements in Service Mirrored in 1947 Dry Cell Standard, By George W. Vinal.....	277
ESC To Be Enlarged to Include Electronics Representatives.....	281
NEMA Approves New Motor Standards.....	285

Mechanical—

New Fields To Be Canvassed by MSC on Needs for Standardization	275
B9 Committee Meets to Revise Mechanical Refrigeration Code.....	276

Mining—

Outmoded Mining Projects are Discontinued by MSCC.....	280
--	-----

Safety—

Rhode Island Safety Codes Supplement Labor Laws, By Robert M. Murray	279
--	-----

Weights and Measures—

Industry Favors Legal Basis for Inch-Millimeter-Light Wave Ratio....	283
--	-----

American Standards Association—

INDUSTRIAL STANDARDIZATION Now Bimonthly.....	265
Gaillard to Give Seminar on Standardization in January.....	282
Two New Member-Bodies Lend Support to ASA Work.....	286
New Members of Standards Council.....	286
ASA Standards Activities.....	287
New American Standards Available.....	290

November-December, 1947

Ruth E. Mason, Editor



Reg. U. S. Pat. Off.

The American Standards Association is a federation of national groups dealing with standardization. Through it, government, industry, labor, and the consumer work together to develop mutually satisfactory national standards. It acts as the authoritative channel for international cooperation in standardization work.

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ASA Officers Re-elected



Top: President, Frederick R. Lack;
Vice-President, George H. Taber, Jr.
Above: Chairman, Standards Council,
Dr E. C. Crittenden.

Right: Vice-Chairman, Standards Council, L. F. Adams.

Highlights

1947 Annual Meeting

EDWARD P. WARNER, president of the Council of the International Civil Aviation Organization, was the featured speaker at the annual luncheon meeting of the American Standards Association October 23. The luncheon was the climax of a two-day meeting which for the first time included sectional committees and correlating committees as well as the Standards Council, Board of Directors, and the Company Member Committee.

Dr Warner, speaking on "Standards in International Flying" (page 272) emphasized the special need for international agreements because of the large percentage of the world's air travel that is now international.

Frederick R. Lack, re-elected president of the Association, reported a

growth in membership and in the work of the ASA but called attention to the fact that the demands for standards have always outrun the financial resources of the ASA (see below). Mr Lack called attention to the development of the international program, and emphasized the importance of industrial management providing leadership in national affairs.

Dr E. C. Crittenden, whose re-election as chairman of the Standards Council was announced at the meeting, reported on the past year of increasing activity. "The ASA is founded and has developed upon the belief that reasonable men can reach agreements without having them imposed by any higher power," Dr Crittenden explained. "It is the job of

the Standards Council to find ways of working out such agreements, and of getting them accepted without too much delay."

Members of the Company Member Committee (see page 270), the Mechanical Standards Committee (page 275), the Sectional Committee on Mechanical Refrigeration (page 276), and the Sectional Committee on Letter Symbols and Abbreviations (page 288) discussed the development of individual standards during the first day of the Annual Meeting.

The Standards Council at its annual meeting October 23 took important actions looking toward the incorporation of the Association and reorganization of the administrative set up and heard reports on the technical work (page 268).

Toward More Efficient Management

Abstract from Report of the President

By Frederick R. Lack

NEVER before has it been so important for industrial management to provide leadership in national affairs. Standards are primarily tools—perhaps the most important tools—which management can use in the solution of problems which require the adjustment of relations to other industries and to government. The president of the National Association of Manufacturers was recently discussing means of stabilizing employment in industry. It is significant that the first technique he mentioned was standardization.

Present-day conditions make it imperative that we consider the use of standardization as an important sta-

bilizer of costs in a period of rising prices. These are some of the ways

in which standards help reduce costs.
(1) When companies use standardized

INDUSTRIAL STANDARDIZATION Now Bimonthly

With this issue, INDUSTRIAL STANDARDIZATION becomes a bimonthly publication. The decision to issue the magazine only once in two months was taken at a meeting of the Board of Directors of the American Standards Association October 16, in line with the economy measures put into effect at this meeting. These include a curtailment of other functions of the Association (see page 266). The Board of Directors hopes that this reduction in the services of the Association is a temporary measure only.

parts and components, these can be manufactured or bought in quantity. Uniformity also contributes to production economy.

(2) Costs of carrying inventories and of maintenance and repairs are lower because of common parts.

(3) Cost of training new employees is reduced because there are fewer things with which to become acquainted.

(4) Accounting costs and piece work are cut because of common parts.

(5) Development and design costs are lower because improvement or development of an article involves coordination of a smaller number of parts.

(6) Standards are especially useful as stabilizers because the best manufacturers accumulate parts and finished goods during slack periods to an extent not practical for nonstandard items.

A standard adopted is a decision arrived at. No longer will top management have to decide questions or reconcile disputes with production, planning, and sales chiefs on the use of materials, methods, designs, specifications, and similar matters. The standard is the standing decision until new developments or more progressive techniques make development of new or revised standards advisable.

This advantage spreads from the top down—from superintendents to foremen, from foremen to workers—fewer delays, less needless talk, more time for planning, producing, and selling current products and developing new ones to meet and outstrip competition.

Yet comparatively few industrial executives have any adequate idea of the importance of the services which ASA is rendering.

One of the principal problems of industry in the past two decades has been to retain in the hands of private enterprise those functions of the country's economy which experience has proved are thus handled for the greatest good of the greatest number of our citizens.

As mass production has made each industry more dependent on other industries as supplier or customer, the problems which they must solve by mutual agreement have increased by leaps and bounds. Ways have had to be found to do this within the spirit and letter of laws and regulations.

Means also have had to be found to protect the consumer in working out these relationships.

Whole sections of industry, although aware of the problems, have failed fully to recognize the amount of machinery which has been developed on an industry-wide and nationwide scale to help solve these interrelationships. Even where the problem was recognized there often was a tendency to feel that "things will work out somehow," or there has been a careless attitude of "let John do it."

The representatives of the trade and technical organizations, the co-operating representatives of government bodies, and consumer groups who are in this audience know that such a federation as the ASA could not exist as a national tool for adjusting government-industry-consumer relations without the whole-hearted technical and financial support of its Member-Bodies.

These are the heart and soul of standards development. ASA is the machinery through which they work.

Survey Committee Studies ASA

AT a meeting of the Board of Directors on September 18, a special survey committee was set up under the chairmanship of C. W. Pierce, president of the National Fire Protection Association and a member of the ASA Board. This committee is undertaking the broadest and most intensive study of ASA organization and operations that has been undertaken since the American Engineering Standards Committee was developed into the American Standards Association in 1928-29. This survey will include the Board, the Council, the staff, and their relation to Member-Bodies and Associate Members.

Members of the Board who are serving on this committee are: F. R. Lack, president of the American Standards Association, *ex officio*; Clarence L. Collens, National Electrical Manufacturers Association; E. C. Crittenden, chairman, Standards Council; Carol Willis Moffett, member-at-large; H. S. Osborne, past chairman, Standards Council. Howard Coonley, chairman of the executive committee of the ASA, and Willets H. Sawyer will act in a liaison capacity. R. C. Sogge, manager of the Standards Division of the General

Electric Company, is secretary and investigator for the committee.

"The Association has been extremely fortunate in having the services of Mr Sogge made available to it in connection with this survey," Mr Lack declared in announcing the appointment of the committee at the annual meeting. "Mr Sogge will be analyst extraordinary for the committee and is bringing to it a fresh approach without bias or previous viewpoint."

The demands for standards from industry, technical groups, and gov-

ernment has always outrun the financial resources of the ASA," Mr Lack explained. "While this is a healthy condition," he said, "it presents serious practical difficulties. As a step toward meeting this situation, the Board of Directors has initiated action toward establishing a more permanent, stabilized method of financing. In the meantime a temporary stringency has arisen which the Board has met by moderate retrenchment measures which I am sure are only temporary."

(NOTE. These retrenchment measures include curtailment in activities, through reductions in staff, in the consumer goods, international, and publicity fields, and reduction of the magazine from a monthly to a bimonthly publication.)

Board Emphasizes Standards Role To Strengthen National Economy

THE first result of the work of the Survey Committee is a re-statement of the objectives and policy of the Association which was approved by the Board of Directors October 23.

"If industry in the United States wants the national standards procedure retained as a private enterprise

operation, then it must be recognized that ASA must be implemented so it can exhibit leadership to show the way in which this procedure can be utilized in a broadly expanded standards program," the statement declares.

"The first need appears to be a reaffirmation of the policy and ob-

jectives of ASA, then a specific program in realistic terms should be prepared and enthusiastically endorsed by the Member-Bodies."

The declaration refers to the objectives set forth in the ASA Constitution:

"To provide systematic means by which organizations concerned with standardization work may cooperate in establishing American standards, to the end that duplication of work and the promulgation of conflicting standards may be avoided.

"To stimulate the work of existing committees and other organizations competent to formulate standards suitable for approval as American Standards, and to bring about the establishment of committees or organizations for this purpose where they do not already exist, but not to formulate standards.

"To serve as a clearinghouse for information on standardization work in the United States and foreign countries.

"To further the standardization movement as a means of advancing national economy and to promote a knowledge of and the use of approved standards.

"To act as the authoritative American channel in international cooperation in standardization work, except in those fields adequately provided for by existing international organizations."

Although the objectives of the ASA have been approved by the Member-Bodies, and most of them are well known and accepted, the object to further the standardization movement as a means of advancing the national economy is both a challenge and obligation, the policy statement declares. In this connection, it states:

"... the value of standardization as a means of advancing the national economy has been established beyond doubt, and... full advantage of the value of national standardization can be obtained only through a vigorous national program participated in by all groups in the economic and social structure. The Board of Directors believes that the ASA has been accepted as the focal point of such a national program.

"... the only policy under which the purpose of the ASA can be attained is a policy which enables ASA to encourage the development of standards by existing agencies; to develop and apply procedures for the creation of new agencies when necessary; to develop and apply procedures to the approval of those standards brought to it through any of these channels which are shown to have a national consensus of acceptability; to operate to a greater degree as a national stimulating force, promoting a knowledge of the importance and value of standardization.

"... a program operated under such a policy is in the direct interest of its Member-Bodies, its Associate Members, and Company Members, all of which compose the ASA and furnish its technical, moral, and financial support. But of even more importance, the Board feels that such a policy is in the public interest.

"... such a program does not place the ASA in competition with any other organization. Its national procedural and clearinghouse functions are not duplicated

Board and Council Consider Changes in ASA Constitution

Would permit revised administrative setup. Proposed charter to be submitted to Member-Bodies

CHANGES in the Constitution of the American Standards Association proposed by the Board of Directors to enable it to reorganize the administrative setup of the ASA and to incorporate the Association either under State laws or under a Federal Charter were considered by the Standards Council at its annual meeting October 23.

The proposed revisions would give the Board authority to change the titles and functions of the administrative officers of the Association, and to provide for additional paid officers. This suggestion was made, the Board explained, in order that the special survey committee may have a free hand to make whatever recommendations it deems best for ASA.

The Standards Council asked the Board to arrange for its survey committee to work with the Committee on Procedure so that it can report to the Council on the reasons for any recommended changes in administrative setup. The Board was asked not to take any action until the Committee on Procedure had reported.

The proposed Congressional Charter, which has been under consideration for some years, has now been revised to meet the requirements of a new policy adopted by both the House and Senate Judiciary Committees.

Because most of the provisions of the ASA Constitution are incorporated in the proposed Charter, recommendations for including the remaining provisions with the Bylaws as a single basic document are being considered. The suggested changes provide for election of members of the Board of Directors by the Member-Bodies rather than by the Board

itself. The Standards Council recommended that the Board of Directors seek incorporation of the ASA and submit the proposed Charter and an enabling amendment to the Member-Bodies.

The Council authorized circulation of a proposed amendment to the ASA Bylaws providing that correlating committees may act as sponsors of sectional committees. Permission for sponsorship would first have to be obtained from the Standards Council, with the provision that the judicial functions of a correlating committee acting as sponsor would be assigned to the Board of Examination or to a special committee.

To clarify the relation of prefaces, footnotes, and appendices to the text of an American Standard, the Council approved the recommendation that an editorial statement appear at the beginning of any preface and appendix to the effect that the material is informative and not part of the standard. The statement of policy is to be published in the next edition of "The Organization and Work of ASA Sectional Committees," PR27, and is in the ASA Style Manual.

Because the ASA or project sponsors may be ordered to furnish testimony in court relating to approval of American Standards, the Standards Council voted that a certified record of letter ballot votes on approval of standards, including the reasons for any negative or conditional votes, be preserved as a permanent record.

Officers of correlating committees reported action taken on approval and reaffirmation of standards and on initiation of projects for confirmation by the Standards Council.

by any other agency. It can, therefore, come into competition with other agencies only if the ASA should violate its own policy requirements, or if another agency should endeavor to assume the functions of ASA.

"The Board of Directors... will rigorously maintain the policy, ... assume

responsibility for obtaining the necessary finances to promote its organization to function efficiently under such a policy, ... assure all groups, regardless of their classification, an equal opportunity to participate in its broad program of work and an equal opportunity to obtain the benefits to be derived from such a program."

What We Are Doing

By E. C. Crittenden

Annual Report of Chairman of ASA Standards Council

IN behalf of the Standards Council we can again report a year of increasing activity. Since the last annual meeting 87 new or revised standards have been approved, 77 standards previously approved have been reaffirmed as still valid, and ten new projects have been formally launched. It should be made clear, however, that the Council itself does not claim credit for these accomplishments. It records the progress made by the many members and cooperating bodies which have done the constructive work represented by these standards. In fact, some of the organizations managing projects which have contributed in a large way to the number of standards approved are not even represented in the membership of the Council.

Furthermore, while approval of 164 standards represents creditable progress it is no ground for complacency. The latest ASA price list includes about 850 approved American Standards, but that is after all only a small selection from the vast numbers of specifications and codes of practice which are essential tools of American industry and commerce, and which affect makers and users, and buyers and sellers, of commodities.

The need for the national standards organization to be even more broadly known and used is emphasized by two special current developments. First, the idea of national standards is spreading rapidly in other countries; foreign buyers expect to find American goods described by specifications having a national status. As competition between producing countries becomes more keen this element will be more important in our foreign trade. Also in our own country "ultimate consumers," the man in the street, or even more the woman in the household, are being told about certifications of quality of the things they buy. Quality can properly be certified only on the basis of some definite specification; the better the backing the specification has, the more weight it will have

with the critical buyer. So, to meet its responsibilities as the national clearinghouse for standards, the ASA must broaden its activities even more than it has during the past year, and must advertise itself and its standards, while giving due credit to its constituent and cooperating bodies which develop these standards.

A principal function of the Standards Council is to establish or to recognize procedures by which standards can be set up with the assurance that they represent the nearest possible approach to a unanimous acceptance by all those who will be affected. It is highly appropriate that agreements worked out by such a cooperative democratic process should be dignified by the title of American Standards. You all know, however, that the democratic process is sometimes slow and cumbersome. We are sometimes tempted to believe that a more arbitrary process would be better, but the ASA is founded and has developed upon the belief that reasonable men can reach agreements without having them imposed by any higher power. It is the job of the Standards Council to find ways of working out such agreements, and of getting them accepted without too much delay.

Decentralization of Council's Duties Speeds Work

To that end the actual operations of the Council have been gradually decentralized as the organization has grown. Decisions on specific projects have been more and more delegated to the several correlating committees, which in general represent recognized branches of industry and their customers. During the past year there have been put into effect further steps in this direction. Recommendations of correlating committees on the approval of standards do not now require a formal vote of the whole Council, but are regularly passed upon by a small Board of Review. An approval becomes effective im-

mediately upon concurrence of this Board with the recommendation of the industry correlating committee. Correlating committees also have been given authority to initiate projects in their particular fields without waiting for action by the Council. These changes in procedures are expected to shorten by some weeks or even months both the time required to get a new project approved and assigned to a sponsor organization and the time lag between submittal of a completed standard and its final approval. The Council trusts that sponsors and sectional committees will join in this movement and show greater speed by pressing forward with their technical work.

In connection with correlating committees, I should note that developments in two lines have been so great during the war as to call for reconsideration of the previously existing organization. Electronics has become so important that it requires more adequate representation in the ASA, and the question of its relation to older branches of electrical work as represented in the Electrical Standards Committee has been under study. In the last two days we have reached an agreement whereby this rapidly growing branch of the electrical industry will be given greater representation and harnessed with the older electrical industry. In optics, a proposed standardization program of a comprehensive sort has been assigned to the Optical Society of America as sponsor, although eventually this field also may call for a correlating committee.

I have already mentioned certification of quality of goods as based upon specifications. One of the standards approved during the year is the American Standard Practice for Certification Procedures. No method has yet been set up under which the ASA will officially sponsor a specific certification program; the discussion of the Standard Practice has nevertheless stimulated interest in this method of putting business on a high

plane of competition. In this connection it may be noted that 22 of the standards reaffirmed during the year were requirements for approval or listing of gas-burning appliances on which the American Gas Association bases its Seal of Approval placed on such appliances.

It may be permissible also to mention some programs which are already under way although the specifications on which they are based have not been submitted for ASA approval. Over 100 makers of portable lamps have formed an organization called the Certified Lamp Makers. Performance specifications based largely upon the standards of the Illuminating Engineering Society have been prepared; lamps which give the required performance as shown by tests at the Electrical Testing Laboratories may be labeled as being "certified." The success of this program may be forecast, because a similar program sponsored by the Illuminating Engineering Society from 1934 to 1943 led to the sale of many millions of improved lamps with a corresponding betterment of lighting in a vast number of homes. A similar plan applying to fixtures for fluorescent lamps has been operated for some time, by the "Fleur-O-Lier Manufacturers," and one for regular home-lighting fixtures is being planned by the "American Home Lighting Institute." An obvious danger is that this excellent plan for promoting sales on an ethical basis may be perverted and its value destroyed by unreliable so-called "certifications." It is therefore desirable that knowledge of the principles set forth in the approved American Standard Practice be spread as widely as possible.

Closely related to this question of certification of quality, and in fact an essential element in it, is the problem of developing specifications for consumer goods, that is, goods sold over the counter to the general public. Organization of work in this field has been slow, but definite progress has been made by committees on electrical equipment for use in the home. A great deal of work has also been done in preparing various recommendations relating to textile products that reach the ultimate consumer market, although the consensus of interested groups required to complete standards has not been attained. As an evidence of the interest of the textile industry in standards and its recognition of the importance of world trade to it, the ASA has been

urged to ask that the secretariat for an international project on test methods for textiles be assigned to this country.

A touchy subject recently laid on the doorstep of the ASA is sizes for women's dresses, fortunately not including the length of skirts. The National Retail Dry Goods Association considers it urgent to reduce the annoyance to customers and the losses to merchants resulting from the present lack of uniformity among manufacturers in the sizing of dresses. In spite of varying styles which affect the relative sizes of waists, hips, and busts, it is believed that standard dimensions can be established and a system of tolerances devised to adjust them in line with style changes.

Performance Requirements Emphasized in National Building Codes

Another nation-wide problem to the solution of which the ASA has been contributing is the lack of housing. Justly or unjustly, restrictive codes are blamed for high costs of building. The program of the ASA Building Code Correlating Committee is to prepare a complete set of standards covering the subjects usually included in building codes. These are to be performance standards rather than construction specifications, so that cities adopting them can have an established goal and yet permit the use of new developments in the building field. The latest of these is the American Standard Building Code Requirements for Steel Joist Construction. Mr George N. Thompson, chairman of the Building Code Correlating Committee, has reported that modernization of local codes is making better progress recently as a result of a growing acceptance of standard code provisions.

Faster and less expensive building is also promised through application of the 1945 standards called American Standard Basis for the Coordination of Dimensions of Building Materials and Equipment and for the Coordination of Masonry under the modular system. These have been applied by the Producers' Council and the National Retail Lumber Dealers' Association in designs for an "Industry Engineered Housing Program." The engineered house is not prefabricated—it is merely pre-planned so that all material and equipment can be ordered in exact sizes needed, according to these American Standards.

Items such as those mentioned are more in the public eye, but they are certainly no more important than basic work such as that in mechanical engineering and on specifications and methods of testing materials which there is not time to list in detail here. The applications in actual use of the standards which the ASA approves is a problem in itself, and perhaps deserves more attention than we give it. The interest shown by standards engineers in the Company Member Committee promises well for such practical use of ASA standards and also reacts as a stimulus to the work of sectional committees on the various standards. We can not expect to remake industrial practices in a day, and slow progress in the direction of uniform and efficient actual practice may be better than the quick printing of a lot of theoretical nominal standards not really used. Certainly we do not expect to impose standards upon anyone, and in spite of the apparently slow pace of our national standards program, the only practicable course appears to be to continue to operate on the principle of common consent.

E. C. Crittenden, chairman of the Standards Council, and H. W. Robb, chairman of the Company Member Committee, exchange notes between sessions at the Annual Meeting.



Company Member Committee Hears Reports on Standards

ENGINEERS responsible for standardization work in 38 companies and Government agencies attended the meeting of the Company Member Committee during the annual meeting of the American Standards Association.

H. W. Robb, General Electric Company, was re-elected chairman for the coming year, and W. C. Wagner, Philadelphia Electric Company, was elected vice-chairman succeeding W. A. Bischoff, Bell Telephone Laboratories. Mr Wagner was also one of those elected for a three-year term to the Administrative Committee which is responsible for planning meetings and supervising the work of the subcommittees. Others elected for the three-year term are:

E. W. Gardinor, International Business Machines Corporation

P. L. Houser, International Harvester Company

A. W. Meyer, Browne and Sharpe Manufacturing Company

A proposal that the name of the organization be changed from "Company Member Committee" to "Company Member Conference" has been approved by the CMC because the new name is believed to more nearly indicate its nature, it was reported. The proposed change is being submitted to the Standards Council and Board of Directors. A conference, it was explained, does not operate on a specific set of bylaws, is not limited to a specific number of members, and implies a gathering of individuals for discussion.

CMC Open to All ASA Company Members

All Company Members of the ASA are eligible for membership in the CMC. A new statement of policy and rules of procedure just approved by the membership and now before the Council and Board for approval to replace the present bylaws of the committee declares in part that:

"The Company Member Conference consists of Company and Federal Agency members of the American Standards Association. . . . It functions in an advisory and educational capacity, exclusively in furtherance of the objectives of the ASA. The

CMC provides a two-way channel, in addition to normal channels through trade and technical associations, through which company members may advance to ASA, its Member-Bodies and sectional committees, their views, needs, and recommendations pertaining to the entire field of standardization. It further provides within ASA a channel direct to industry for use in any way that may assist in the development of standards or promote the acceptance and application of existing standards."

The work of the Committee is carried on by fact-finding subcommittees which study the problems assigned to them and report their recommendations. On the basis of these reports, the Committee may make recommendations for the development of new standards, the initiation of new projects, for changes in existing standards, or for changes in the scope of the work being done by sectional committees. Eight subcommittees reported to the October 22 meeting of the Committee.

In addition to the subcommittee reports, the Committee heard a discussion of the significance to American industry of the international program already going forward through the International Organization for Standardization (see page 274). It also heard discussions of several standards particularly important to company standards work by chairmen of the sectional committees responsible for their development. These included surface finishes, slotted and recessed head screws, socket head cap screws and socket head screws, and a discussion of preferred numbers by Dr John Gaillard of the ASA staff.

Knurling Tools—

The subcommittee, under the chairmanship of E. W. Gardinor, International Business Machines Corporation, recommended that the development of standards for knurling be considered by a technical committee. It suggested that the following be given special consideration:

1. Establishment of definition and nomenclature for knurling:
 - (a) The tools (circular and flat)
 - (b) The practice
 - (c) The part

2. Establishment of knurling on the basis of a series of diametral pitches so that tools will theoretically track on:
 - (a) Diameters in the inch system
 - (b) Diameters in the metric system
3. The establishment of symbols, formulas, graphic representation, and specifications.
4. Establishment of knurling tool specifications:
 - (a) Proportions
 - (b) Markings for identification

Among the difficulties they found in existing practice, the subcommittee reported, is the fact that the knurl pitch established by trade practice in many instances will not theoretically track on diameters conforming to preferred fractional stock diameters established by the American Standard, Limits and Fits for Engineering, B4.1-1947.

In addition, the present general practice of designing with diameters suited to stock knurling tools requires extensive experimentation both in tooling and manufacturing of the part; and the outside diameter of the circular knurling tool has a broad standard tolerance, despite the important bearing which such tolerance has on the quality of the knurled surface produced, the subcommittee found.

The trade practice has further disadvantages which require necessary experimentation in manufacturing departments to produce satisfactory knurling, the subcommittee reported. Among the difficulties commonly encountered are:

1. Poor Tracking. The teeth fail to mesh as successive revolutions of the tool work into the blank.
2. Broken Teeth. Chips and shavings form on the blank at irregular intervals resulting in uneven deformed teeth.
3. Uneven Tooth Profile. Some teeth on the blank may form with sharp edges and splinter while on the opposite side of the same part, a smooth well-rounded tooth is formed.
4. Cracked Knurling Tools. Many times the knurling tool itself breaks as extreme pressures are developed due to improper design and application.
5. Uncertain Number of Teeth. The inability to obtain desired number of teeth due to improper design and application.
6. Uncertain Resulting Dimensions on the Work.

Nomenclature for Metal End Products—

No definite recommendations for development of standards were arrived at by the subcommittee on nomenclature of metal end products, but the committee believes that uniform definitions of terms would be advantageous from a technical and engineering viewpoint. R. A. Frye, Westinghouse Electric Corporation, chairman of the subcommittee, reported that its survey had indicated that some companies would be reluctant to change their practices because of production difficulties. However, many of the companies had declared that they would cooperate in an attempt to reach agreement on uniform definitions if specific information about the differences in terminology could be made available. It was agreed that information concerning the terms used by the basic industries should be obtained and

an analysis submitted to the industries concerned as a basis for deciding whether a standardization project should be requested.

Drawings and Drafting Room Practice—

One of the most important subjects the Company Member Committee can handle, in the opinion of W. C. Wagner, Philadelphia Electric Company, chairman of this subcommittee, is that of standards for drawings and drafting practice. A questionnaire is now being prepared to determine whether members of the Company Member Committee believe that greater uniformity of practice is needed and can be obtained, and whether the present American Standard Drawings and Drafting Room Practice, Z14.1-1946, and American Standard Abbreviations for Use on Drawings, Z32.13-1946, can be made of greater assistance both to industry and government.

Designations of Iron and Steel—

It is planned to send a questionnaire to users of metal to determine whether in their opinion there is a standardization problem here. The chairman of this subcommittee is G. H. Harnden, General Electric Company.

Gage Glass Tubing—

The subcommittee on gage glass tubing has made an investigation and found that no recognized industry standards exist for the glass gages used to show the levels of water, oil, or other liquids. It found, however, that the Corning Glass Company has recently published a series of sizes which the company considers standard. In addition, a Simplified Practice Recommendation is being developed in standards for lubricating devices. The subcommittee plans to get in touch with manufacturers of glass tubing before any definite suggestions for a standardization project are made. R. A. Frye, Westinghouse Electric Corporation, chairman, reported.

Industrial Purchase Specifications—

A subcommittee has been appointed to determine whether it would be practicable to develop standards for the form of industrial purchase specifications. S. P. Kaidanovsky, Bureau of Federal Supply, U. S. Treasury Department, is chairman.

Participation in Standardization—

This subcommittee, under the chairmanship of S. H. Watson, Radio Corporation

of America, RCA-Victor Division, is studying methods of getting information concerning the most effective organization of company standards departments and data about the most effective use of American Standards into the hands of interested companies. One suggestion is to arrange for regional meetings of ASA Company Members.

Tubular and Split Rivets—

As a result of recommendations made by the Company Member Committee, a special subcommittee on tubular and split rivets is being organized by the Sectional Committee on Bolt, Nut and Rivet Proportions, B18.

Twist Drills—

A survey to determine whether twist drills made and marked in accordance with American Standard B5.12-1940 are available and are being used showed that the large users of drills who buy direct from the manufacturers would like to see the standard more widely used than it is at present. The smaller companies all recognize the desirability of having a smaller number of sizes as provided by the American Standard but have not insisted on the use of American Standard Sizes. S. H. Watson, chairman of the Subcommittee on Participation, reported. It is planned to continue this study during this fall and winter before a final report and recommendation is made.

Surface Roughness—

Rudolph F. Gagg, chairman of the Sectional Committee on Classification and Designation of Surface Qualities, B46, discussed the application of the recently completed American Standard for Surface Roughness, Waviness, and Lay.

(NOTE: A symposium on surface roughness and the new American Standard, in which abstracts from Mr Gagg's discussion will be used, will be published in the January-February issue of INDUSTRIAL STANDARDIZATION.)

Slotted and Recessed Head Screws—

A paper covering the same material on the American Standard Slotted and Recessed Head Screws, B18.6-1947, as that presented at the CMC meeting by F. P. Tisch, Pheoll Manufacturing Company, chairman of the committee which developed the standard, is being published in *Fasteners*, a magazine issued by the American Institute of Bolt, Nut, and Rivet Manufacturers.

Socket Head Cap Screws and Socket Set Screws, B18.3-1947—

F. W. Helming, chairman of the committee which developed the American Standard on Socket Head Cap Screws and Socket Set Screws, B18.3-1947, described the difficulties experienced before the standard was developed and told how the standard meets these problems. Before work on the standard was first started in 1928, he said, variations due to different methods of manufacture and standards used by the different producers of socket screws caused discrepancies in thread fits; type of thread; pitch; the contour of the head; and head diameters on cap screws. There were no standard dimensions or tolerances. In 1928 work started toward unification of dimensions.

Among the factors contributing toward the development of a standard for socket screws, Mr Helming said, was the fact that safety engineers became aware that square head set screws were a safety hazard and that a headless type of screw was needed for safety. The standard as developed has been instrumental in "the phenomenal increase in the use of socket set and socket head cap screws in this country," Mr Helming declared.

The first edition of the standard on socket head cap screws and socket head set screws was approved in 1936. In 1944 an addition to the standard was approved covering hexagonal and fluted type socket head shoulder screws (stripper bolts) and published as an appendix.

The need for changes in dimensions and tolerances to facilitate manufacturing processes recently brought about a complete revision of the standard, the new edition adding #2, 3, 4, 5, and 6 hexagonal and fluted socket cap screws. These small cap screws were added because there was considerable confusion as to head diameters and head heights among the many producers of heat-treated alloy steel screws who were manufacturing to meet the wide demand for this type of screw. The new edition, American Standard Socket Head Cap Screws and Socket Set Screws, B18.3-1947, was completed and published this year.

Recently, there has been a demand for set screws smaller than the #5, which is the smallest in the new standard, Mr Helming declared. A survey has shown that all producers are not agreed on the necessity for including the #4 set screw in the revision, however, although tentative specifications have been submitted by some producers on the #4 and #3 socket set screw. There is also a demand for #1 and #2 sizes, he declared. Mr Helming asked the Company Member Committee for comments on the need for adding these sizes in a new revision of the standard.

In addition, Mr Helming asked the Committee for comments as to whether dimensions for flat head cap screws and for socket pipe plugs should be added in the standard.

Preferred Numbers—

Dr John Gaillard of the American Standards Association staff presented a discussion of the American Standard on Preferred Numbers, Z17.1-1936, along the line of the article "A Guide for the Designer in Deciding Upon Product Sizes," published in the November 1945 issue of INDUSTRIAL STANDARDIZATION.



George N. Thompson, chairman of the Building Code Correlating Committee, and W. F. Weber, chairman of the Safety Code Correlating Committee, chat following the annual meeting of the Standards Council.

Standards in

International Flying

STANDARDIZATION of the methods of calculating the strength of an aircraft, of specifying the strength that it must possess, of setting requirements for stability and ease of control, and standardization of the means of determining the maximum allowable power output of a given engine, passed early into the hands of government. On the other hand, the specification of the forms of aircraft parts, and in general of anything that is conducive to convenience and economy rather than immediately vital to safety, has remained a problem of aircraft industry. The industry has found the opportunity for an enormous amount of national standardizing and an appreciable amount on an international scale during the past generation.

The aeronautical world is a large one even in peace. Airline operations and traffic have risen annually by 20, 30, and even 50 percent above the figures for the previous year. The carriage of mail by air in the United States made a record that must be unusual in the compilation of economic statistics, when for ten years, from early 1935 to early 1945, every single month showed an increase of traffic over the same month in the preceding year. The world volume of air traffic has built up to a level that is almost certain to exceed 12 billion passenger-miles this year, with about 100 million ton-miles of cargo and mail. Compared with railway freight, the cargo figures are insignificant; but the airplane is primarily a passenger carrier, and the aggregate passenger travel by air in the United States, which had never been as much as 6 percent of the total rail travel up to eight years ago, will run nearly 20 percent of the rail total this year.

Between 20 and 40 percent of the world's air travel is international in

The International Civil Aviation Organization provides standards for uniformity and safety to facilitate and improve expanding air operations and traffic between countries of the world

By Edward P. Warner

character. On the North Atlantic alone there have been an average of nearly a dozen flights a day in each direction during the past summer. Almost 200 thousand passengers will have crossed the Atlantic by air during 1947, or substantially more than made the crossing in first- or cabin-class accommodations in a good pre-war year.

Obviously the word "standardization" can be used in many senses, some of them far outside the normal fields of action of this Association or of the International Organization for Standardization.

International Organization Strives for Uniformity

Plenty of evidence proves the popularity of the concept, and among the evidence is the phrasing of the International Civil Aviation Convention that gave birth to ICAO. The parties to the Convention, now numbering 43 states which in the aggregate do more than 90 percent of the international commercial flying in the world, have given an undertaking "to collaborate in securing the highest practicable degree of uniformity in regulations, standards, procedures, and organization, in relation to aircraft, personnel, airways, and auxiliary services, in all matters in which such uniformity will facilitate and improve air navigation. To this end, the International Civil Aviation Or-

ganization shall adopt and amend from time to time, as may be necessary, International Standards and Recommended Practices and Procedures dealing with . . ."; and there follows a long list of subjects, ranging from the characteristics of airports, through the collection and exchange of meteorological information, to the form of log books and the manner of investigating accidents.

Aeronautical Regulation Managed by Governments

Now that, in a sense, has put us into the business of international standardization, by direction of most of the governments of the world. You as a national association participating in the International Organization for Standardization are in it, too; and it is to be considered how we can best collaborate. The relation of our respective fields of work was discussed in a preliminary way at the ISO meeting in Zurich last spring. Mr. Coonley has written me on behalf of ISO to suggest that we establish a joint committee to carry the discussion into more detail; and I hope that we shall soon do so.

It is my understanding of the process of industrial standardization, whether domestic or international, that participation in the work of preparing a standard and acceptance of the results are normally equally voluntary. In aeronautical regulation,

NOTE: This paper is an abstract from an address presented before the annual luncheon meeting of the American Standards Association on October 23.

development has followed a somewhat different course. The fact, as I understand it, is that the primary concern of the International Organization for Standardization and of the national associations is with the measures that industry itself can take to produce a more economical and useful product and to make it better serve the convenience of the consumer. Self-interest and common sense are the enforcement agents behind such a standard. ICAO, on the other hand, as an organization of governments, is concerned primarily with laying down specifications for the things that governments themselves will do (such as the provision of air traffic control services), for the regulations that governments believe it necessary to adopt to protect air safety, and for the recommendations that they promulgate.

Objectives, Rather than Specifications, Stressed

In some cases the two types of action are closely interwoven. There is more than one kind of government regulation in aeronautics. There has been an increasing tendency in recent years to draw air regulations in terms of the objectives to be realized, leaving it as far as possible to the parties affected to make their own choice among the alternative methods of attaining the objectives. It is a tendency that ICAO's work for international uniformity in air regulation has encouraged; for it is far easier for a number of governments to agree on the objective to be attained by a regulation than on the precise way in which it should be attained. In many cases, of course, there are still precise specifications, and there always will be. There are some things which must be done in a perfectly uniform way to avoid confusion, if nothing worse. If one pilot acknowledging a message from a control tower says "I understand," and another says "OK," and still another "I get you," the operator in the tower is given a problem in estimating the precise extent of the intended meaning that he is spared if all three of them say "Roger." Still, the objectively stated requirement is common enough to justify my tagging it as a trend.

In some cases the objective statement is a confession of defeat of the endeavor to foresee all the contingencies that can arise, and to provide against all of them by a specific rule to cover each one. Air traffic rules, for example, were first written very

much on that theory; but it is beyond human capacity to foresee all of the things that a pilot might do to make trouble for other users of the air space or for innocent persons on the ground, and much of that detailed specification of prohibitions has now been replaced in the ICAO-sponsored Rules of the Air by the simple mandate that "an aircraft shall not be operated in a negligent manner, or in a reckless manner so as to endanger life or property of others."

There is much greater interest for the standards association, however, in the cases in which objective statement has been introduced in order to leave designers and builders the greatest possible freedom in determining the form and detail of their equipment. ICAO has adopted, for example, 110 pages of air-worthiness regulations, and we expect the governments of the world to adopt them without change into their own national regulatory systems. They include such provisions as that "all materials used in the primary structure shall conform to approved specifications" and "all assumed values of strength and elastic properties for use in design

calculation shall be suitably related to the values quoted in the specification with which the material complies." We have adopted no materials specifications; and I would be reluctant to see it attempted. Official adoption of a particular specification by ICAO would imply a special inter-governmental approval. In most cases there are several alternative materials, and in some cases a great many alternatives, among which the aircraft builder ought to be free to make his choice without suggestion of prejudice on the part of the regulatory authority. The establishment of the specifications thus remains for the standards associations and their international organization, if they will see the need and seize upon it.

On instrument installation, the ICAO air-worthiness code provides that such instruments as are used by the pilot must be so arranged that they can be readily seen when looking forward along the flight path, and that they shall be conveniently grouped. There has been occasional discussion of the desirability as a safety measure of prescribing a particular grouping of instruments; but

Dr Edward Pearson Warner, president of the International Civil Aviation Organization, has served in important aviation regulatory and advisory capacities at the appointments of Presidents Coolidge, Hoover, Roosevelt, and Truman. In addition to having served as editor of the magazine *Aviation* from 1929 to 1934, he is the author of *Aerodynamics of Airplane Design*, awarded the Aero Club of France medal as the best technical book of the year in 1927. He also received the Wright Brothers medal of the Society of Automotive Engineers for his paper on "Airplane Design." He is the author of *Aerostatics* and is coauthor of the *Aviation Handbook*.

Dr Warner was Assistant Secretary of the Navy for Aeronautics in 1926; he has been a member of the National Advisory Committee for Aeronautics; of the Presidential Commission on Air Policy; and a member and vice-chairman of the Civil Aeronautics Authority.

He was special assistant to W. Averell Harriman, head of the American Mission to Great Britain, in 1944, serving as this country's expert on planes; and was technical adviser to A. A. Berle, Assistant Secretary of State, at the initial conference on postwar plans for the development of civil aviation.

Dr Warner was one of the American delegates to the International Civil Aeronautics Conference in Chicago in November 1944, which set up the tentative outlines for a world-wide Civil Aeronautics Organization. He resigned from the Civil Aeronautics Board when he was elected president of ICAO. The International Civil Aviation Organization is one of the international groups which has made arrangements to work jointly with the International Organization for Standardization.

that again would be a restriction on experiment and development. The evil, in retardation of progress and restriction of freedom of choice, would probably outweigh the good; and it is accordingly left to the standards associations to seek to develop specific arrangements of instruments on the panel. The acceptance of such arrangements by builders would be voluntary. On the other hand, there are some details of arrangement and operation of equipment which appear so vitally related to safety that governments, individually and in their collective action through ICAO, have taken the initiative in insisting that they be maintained without exception. Thus the ICAO air-worthiness standards include a mandatory provision that when controls of the conventional aircraft form are used, a push on the right-hand rudder pedal shall cause the airplane to turn to the right. That arrangement has become so well established through 35 years' experience that those who drafted the standard felt justified in closing the

door to any further experimentation.

I have chosen for particular mention the problems of standardization that are most closely related to regulation and governmental action. Innumerable opportunities also exist for standardization that will deeply affect the convenience, efficiency, and economy of operation of aircraft, but that no one would seriously think of making a subject of government mandate. On many of those matters, it would be very unfortunate if national action were to be taken in the various countries that have active standardization movements without seeking international agreement at the same time. Aircraft will fly the oceans of the world, and cross all national frontiers. It will be a sorry situation if want of international standardization makes it necessary for every airline to install all its own equipment at every point that it is to touch, in order that its passengers and cargo may be discharged and loaded quickly and easily and that its aircraft may be refuelled safely

and efficiently. Look out from the observation deck of a major American airport upon the bewildering number and variety of ramps and gangways and other loading devices that airlines have provided, and you will have a vision of what even a mild degree of standardization in such matters might mean in future savings. The battle that was lost for want of a horseshoe nail can have its counterpart on a more modest scale in the world flight that is interrupted because a blown fuse has led to the discovery that the dimensional standards for such parts in the country where the incident occurred differ from those in the country of the airplane's origin. In aeronautics, as in other fields of industry, standardization will neither kill initiative, stifle progress, nor take the variety out of life; but in aeronautics, standardization gains a special effect from its relation to regulation. In aeronautics, more than in almost any other field, every effort must be made to internationalize the standards from the first.

International Cooperation by Industry Deemed Vital to American Economy

By Cyril Ainsworth

Assistant Secretary and Technical Director, American Standards Association

DURING the past few months the American Standards Association has been flooded with documents indicating that international cooperation on standardization is going forward in full force. Before the war American industry participated in international standardization work only to a limited extent. Now the question is: Does American industry want to participate in this postwar international effort?

The new projects being proposed should be examined carefully and from a long-range viewpoint. They should be sound in their conception. If not so conceived, American industry might lend its influence in this direction and thus make possible intelligent participation.

Participation, however, cannot be confined to joining a committee or

writing letters. To be effective, it must include the sending of qualified technicians to take part in committee meetings in Europe, since European countries do not have sufficient funds to send representatives to the United States. This kind of participation will require money. If industry is willing to give its financial backing as well as its technical skill to this program, however, in my opinion it will receive a worthwhile return for every dollar it puts into it.

At the present time American industry is working as hard as it can to meet the demand for goods throughout the world. There is little need to worry about restrictions due to differences in requirements. In a few years, however, other countries may be in a position to buy from the United States on the basis of the

specifications they have established. Unless American industry has been taking part in the development of these specifications, the profit margin may be seriously affected or the sale of goods made difficult. Already, an American industry faces heavy cuts in production because one country has placed taxes on its products so heavy that it cannot sell there. A similar situation can arise, not due to taxes but to standards, if the other countries of the world band themselves together and develop requirements which do not conform to American Standards and which thus bar American products.

An example in reverse is the standard for V-belts which has been tentatively adopted by Norway, Sweden, and Denmark. This proposed standard is in line with American requirements. Before completing this document, the Scandinavian countries first found out what standards existed in the United States. Their new specifications are based on standards of the Society of Automotive Engineers and the Rubber Manufacturers Association obtained through the American Standards Association. The present American program to unify practices in this country can affect not only the Scandinavian proposal but broader international proposals.

A recommendation for an international project for frozen food packages made by Norway shows the wide implications of this international cooperation. Norway is not interested in buying frozen foods from us. She is, however, interested in buying American refrigeration equipment. Through international agreements on standard sizes, she believes that refrigeration equipment can be purchased from the United States with the assurance that Norwegian frozen food packages will fit satisfactorily in it. The American industry has decided not to participate in this activity for the time being because its own house is not in order. It hopes, however, to keep in touch with it.

In addition to its opportunity

through the committees of the International Organization for Standardization, American industry now has a unique opportunity to register its point of view on standards being developed by countries in the British Commonwealth of Nations. This is a result of action taken at a conference of the National Standards Bodies of the Commonwealth in June of this year. The conference unanimously adopted a procedure whereby a copy of minutes of first meetings of committees and first drafts of standards of the standards bodies of every Commonwealth nation are sent to the United States for review. The American Standards Association circulates these drafts to the industries concerned for comment and criticism.

Up to the present time, American industry has not seemed to recognize the significance of this opportunity and the ASA has received very little comment to send back. A few companies, on the other hand, have been very much interested.

These are a few concrete examples of the relationship between this very much alive international activity and American industrial operations. American industry must evaluate these activities as to their importance. If the value is determined to be of real significance, participation technically and financially should commence as soon as possible so that American interest can be expressed in the early deliberations of these international standardization committees.

New Fields To Be Canvassed by MSC On Needs for Standardization

GROUPS concerned with metal drums used for materials, such as oils and greases, and those interested in materials-handling equipment will soon be asked by the American Standards Association for their opinions as to the advisability of undertaking standardization in these fields. This is the result of action taken by the Mechanical Standards Committee at the ASA Annual Meeting. In both cases, the program committee of the MSC had found that the outlook for successful standardization was promising and that, accordingly, a survey of the possibilities for action under ASA procedure should be made.

In the manufacture of steel drums, for example, it has been pointed out that 25-lb drums vary in diameter from 9 $\frac{7}{8}$ inches to 11 $\frac{7}{8}$ inches, and in height from 8 $\frac{1}{2}$ inches to 11 $\frac{1}{8}$ inches. Other commercial size drums, namely 100 lb and 400 lb, show the same degree of variation in dimensions. It seems impossible to design and construct dispensing equipment which will fit all containers, it was reported at the meeting.

At the present time, the only specifications or standards known to be in existence for steel drums are those promulgated by the Federal Government. Probably the most widely used are those contained in the Interstate

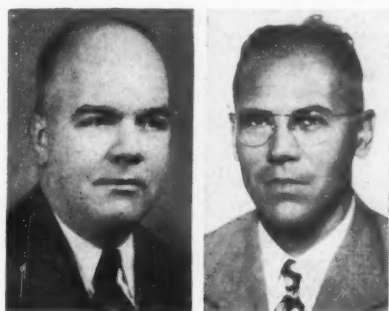
Commerce Commission regulation for transportation of explosives and other dangerous articles by freight. These specifications are primarily concerned with construction features to assure safety and, with the exception of specifying the thickness of material and the capacity of the container, do not concern themselves with physical dimensions. A Simplified Practice Recommendation, R20, has also been promulgated, but this deals only with the capacity of a container and does not mention either construction or dimensions. The Federal Government also has several Federal Specifications for steel drums. In general, these specifications are the same as the specifications con-

tained in the ICC regulations.

It was pointed out at the meeting of the MSC that, although a survey has indicated complete accord on the part of the principal users of steel drums for lubricating greases, the manufacturers of these drums have not been asked for an opinion. Obviously, the drum manufacturers will be included in the canvass as a group having a major interest in the proposed project.

The need for standardization of materials-handling equipment has been stressed during recent months in several trade and technical journals. The July issue of *Distribution Age*, in an editorial concerned with modern materials-handling equipment, said, "Since materials handling functions at points where one productive or distributive activity connects with another, the need for standardization of fundamental elements of present-day equipment is becoming increasingly apparent."

The June 1946 issue of *Mechanical Engineering* carried an article by Nathaniel Warshaw pointing out the comparative simplicity and tremendous advantages of standardizing such phases of materials-handling equipment as wheel sizes, bearings for wheels, and lift truck capacities. Mr Warshaw, who has written many papers calling for standardization in



Left: V. L. Barr, chairman of Sectional Committee B3. Right: George W. Purdy, new NASC representative.

this field, visited ASA offices recently and offered his full cooperation if a project in this field could be initiated.

Standardization of pallets is of particular interest to many groups at this time, both in this country and abroad. It is reported that a trade association of pallet manufacturers is being organized, one purpose of which is to attempt standardization of pallets. The Simplified Practice Division of the National Bureau of Standards has issued a Simplified Practice Recommendation for pallets for the wholesale grocery trade.

Since the last MSC meeting on June 12, several changes in membership have been made. The Anti-Friction Bearing Manufacturers Association has appointed S. H. Stoner, chief engineer, New Departure Division, General Motors Corporation, as

its representative with H. O. Smith, secretary-manager, Anti-Friction Bearing Manufacturers Association, as his alternate. Major Rowland Tompkins, Rowland Tompkins and Sons, has been appointed to succeed H. M. Hart as the representative of the Heating, Piping and Air Conditioning Contractors National Association. The National Aircraft Standards Committee has appointed George W. Purdy, standards engineer, Republic Aviation Corporation, as its representative. An alternate has not yet been appointed. Dr H. L. Dryden has resigned as a representative of the National Bureau of Standards and his successor has not yet been selected. The appointment of a representative for the Automobile Manufacturers Association is still expected.

Acting upon the unanimous recommendations made by the organizing committees of the MSC appointed to advise on several new projects recently started under MSC sponsorship, the MSC appointed V. L. Barr, director of engineering, Roller Bearing Company of America, Trenton, New Jersey, as chairman of the Sectional Committee on Ball and Roller Bearings, B3; F. T. Ward, vice-president and chief engineer, Third Avenue Transit Corporation, New York, as chairman of the Sectional Committee on Numbering System for Anti-Friction Bearings, B54; and H. W. Robb, standards engineer, Standards Department, General Electric Company, Schenectady, New York, as chairman of the Sectional Committee on Colors for Industrial Apparatus and Equipment, Z55.

B9 Committee Meets to Revise Mechanical Refrigeration Code

THE Sectional Committee on Safety Code for Mechanical Refrigeration, B9, met on October 22 at the Waldorf-Astoria for the first time since 1939 to discuss the need for revision of American Standard Safety Code for Mechanical Refrigeration, B9-1939.

The new officers elected at the meeting are: Dr William B. Hainsworth of the American Gas Association, chairman; H. D. Edwards, American Society of Refrigerating Engineers, first vice-chairman; E. T. Benson, Air Conditioning and Refrigerating Machinery Association, second vice-chairman; and D. F. Hayes, ASA staff, secretary.

A discussion on means of promoting greater acceptance by regulatory bodies followed the election of officers. It was the sense of the group that all organizations participating in the revision of the code should use their influence to obtain wider adoption of the code.

The question of whether or not the



W. B. Hainsworth

Mechanical Refrigeration Code was in accord with the Unfired Pressure Vessel Code of the American Society of Mechanical Engineers came up for discussion and it was stated that they are the same in theory, but not in wording. This led to the appointment of a subcommittee to suggest any parts which might be extracted from the Unfired Pressure Vessel Code and the American Standard Code for Pressure Piping, B31.1-1942, for inclusion in the B9 code or an addendum thereof. The subcommittee named consists of: L. S. Morse, Air Conditioning and Refrigerating Machinery Association; Lee Nussbaum, American Society of Heating and Ventilating Engineers; Joseph F. Scott, International Association of Industrial Accident Boards and Commissions; Walter A. Grant, ACRMA; F. R. Fetherston, Compressed Gas Manufacturers Association.

Recommended changes and modifications of the regulations governing the ratings and use of safety valves will be considered by another subcommittee appointed at the meeting. The fundamental rule for determining the capacity of a safety valve when all factors are taken into consideration should be identical with the rules used by the ASME, the subcommittee was advised. Some of the

sections of the Unfired Pressure Vessel Code dealing with safety valves are now being considered for revision, too, and the group will take this into account in its studies. The subcommittee on safety valves consists of: S. V. James, representing Underwriters' Laboratories, Inc, chairman; W. P. Kliment, Manufacturers Standardization Society of the Valve and Fittings Industry; Carl S. Cragoe, National Bureau of Standards; C. O. Meyers, National Board of Inspectors of Pressure Vessels; and L. S. Morse, ACRMA.

The formation of a Code Drafting Subcommittee to word recommended changes for inclusion in the code was a major point of the discussion of meeting. This group will consider, in addition to other suggested changes, liberalization of certain specifications in the code dealing with Class I refrigerants. The subcommittee, composed of Glenn Muffly, American Society of Refrigerating Engineers, chairman; F. H. Faust, National Electrical Manufacturers Association, vice-chairman; Charles C. E. Harris, Refrigeration Service Engineers Society; Walter F. Jones, American Society of Mechanical Engineers; A. C. Buensod, Heating, Piping and Air Conditioning Contractors National Association; and Gordon MacFarland, National Electrical Manufacturers Association, met after the sectional committee had adjourned. It decided to compile all recommendations and suggestions for consideration at a meeting to be held in Atlantic City on December 10 and 11.

Improvements in Service Mirrored in

1947 Dry Cell Standard

By George W. Vinal

BILLIONS of dry cells were produced annually during the war period. In 1945 the estimated requirements were 3 billion 400 million, according to press releases of the War Production Board. Actually this phenomenal production was not reached because of the cut-back at the end of hostilities, but production is said nevertheless to have reached the rate of 3 billion cells a year. A year previous to the war the annual production, representing civilian uses, was about 900 million cells. Few people realize, perhaps, the extent to which dry batteries are made and used in this country.

With the adoption of the fifth edition of the American Standard specification for dry cells and batteries, approved on August 6, 1947, another step in the development of a continuing specification has been completed. Dry cell specifications were first formulated during the first World War in 1917. Since then, manufacturers of batteries and the larger industrial users have cooperated with representatives of the Government in perfecting tests and specifications for the various kinds of dry cells and batteries. This work has been accomplished through a sectional committee of the American Standards Association acting under

the sponsorship of the National Bureau of Standards.

The new specification, to be known as C18-1947, is being published in Circular No. 466 of the National Bureau of Standards. Following the approval of this specification, steps were immediately taken to revise the well-known Federal Specification WB101. In form these two specifications differ, but in technical requirements the Federal Specification of recent years has been made identical with the current American Standard specification.

Standards of quality of dry batteries have been maintained. It is noteworthy that within the past 10 or 15 years the output of these batteries has been three- or fourfold greater than when specifications were first formulated in 1917. Some indication of this was given in previous articles published in *INDUSTRIAL STANDARDIZATION* for February 1937 and April 1942.¹ It is unnecessary to repeat the figures here. The advance in quality was made possible by the ability and willingness of manufacturers to improve their methods and by the availability of better sources of raw material, in particular the use of acetylene black in many but not all types of cells.

The new specification differs from the previous specification of 1941 in some essential particulars. More emphasis is now placed on the smaller sizes of dry cells, including flat cells, sometimes called miniature cells, the smallest of these recognized by the specification being 5/16 by 1/2 inch. The new specification covers battery packs for radio use combining low voltage for the A circuit and

a higher voltage battery for the B circuit. A more complete standardization for hearing aid batteries has been effected; socket connections for radio A, B, and C batteries have been standardized in conformity with the standards of the Radio Manufacturers Association; a new 2 1/4-ohm test for flashlight cells has been adopted which reflects the current trend toward the use of half-ampere flashlight lamps. Some requirements have been increased for the older and well-established tests.

In considering the tests to be applied to any particular type of dry

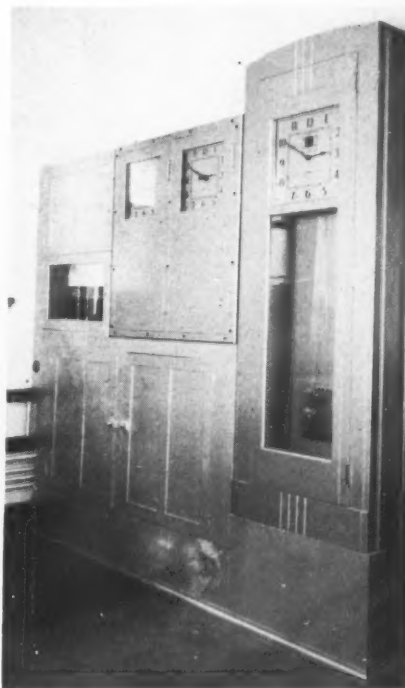


Fig. 1. The new control equipment for use in making tests on dry cells recently installed at the National Bureau of Standards. The master clock at the right keeps time to within a few seconds a month. It operates the machines at the left which control the tests described in the American Standard Specification for Dry Cells and Batteries.

George W. Vinal, chief of the Division of Electrochemistry of the National Bureau of Standards, is chairman of the Sectional Committee on Dry Cells and Batteries, C18. This committee works under the sponsorship of the National Bureau of Standards.

¹In 1917, test requirements were for 34 hours for heavy intermittent service whereas the average test results in 1941 were 123 hours; for light intermittent service, requirements in 1917 were for 140 days whereas in 1941 average test results showed 360 days.

battery, the test which best represents its service is that which most nearly duplicates the rate of energy output of the battery when in actual use. Intermittent tests are preferred to continuous tests and should be used whenever possible since there is no direct relation between the results of continuous tests and intermittent tests of longer duration. The specification distinguishes between "initial" tests which are intended to show the condition of fresh batteries within 30 days of their receipt by the testing agency, and "delayed service" tests which are intended to measure the keeping quality of the batteries during a long period of time, usually 6 months. The test requirements for delayed service tests are usually about 10 percent less than the initial requirement. This is a liberal allowance and it may happen that some batteries on delayed service tests will do as well, or nearly so, as on the initial test.

The minimum required performance of a test is necessarily less than the average performance of the best quality batteries, which should easily comply with the specifications. All makes and types of batteries will not necessarily give the same test results or the same length of actual service. As an example of the measured performance of some cells manufactured in 1946 in comparison with the minimum requirements of the specification, the following table gives significant figures.

Equipment for testing dry cells has

Average output of brands complying with requirements

Type of Battery	Size of Cell	Kind of Test	1946 Measured Performance	Requirement of ASA Specification
Flashlight	AA	4-ohm intermittent	85 min	65 min
"	C	"	359 min	300 min
"	D	"	843 min	625 min
Industrial cell	D	Light industrial	1071 min	850 min
Special telephone	No. 6	3 cells 20 ohms, light intermittent	403 days	325 days
Hearing aid	CD	"A" battery test	66 hr	60 hr
" "	N	"B" battery test (light)	1276 hr	800 hr
"B" batteries	D	1250 ohm test	360 hr	300 hr
"	B	2500 ohm test	256 hr	210 hr
"	N	5000 ohm test	110 hr	75 hr

been available in laboratories of the larger manufacturers and at the National Bureau of Standards for some years past. It is an encouraging sign that other manufacturers are also installing adequate test equipment. Improvements have been made in the battery laboratories at the NBS. Fig. 1 shows the new control equipment. The master clock at the right keeps accurate time to within a few seconds a month and it operates the program machines to the left, which in turn control the various tests as described in the specification. One of the older program machines is to be seen at the extreme left. This, however, is used for miscellaneous purposes at the present time. Low-voltage bat-

teries are housed in the cabinet below the program machine to supply the current necessary for operating various relays, switching mechanisms, and winding the clock. Fig. 2 shows a test board for flashlight cells. The multiple switch and resistance coils for each circuit are housed in the cabinet below. Voltage readings are taken periodically as required by the specifications at a switchboard made largely of telephone apparatus.

Recent years have seen new emphasis placed on dry battery research. New and powerful tools of research including the electron microscope, x-ray spectrograph, petrographic microscope, and the mass spectrograph have all been applied to problems of materials and operation. By the first two, much has been learned about the crystal structure of manganese dioxide and why some types appear to be better suited to dry cell manufacture than others. Crystallization occurring in the white compounds has been studied by the petrographic microscope. Gases liberated by dry cells, although in small amounts, have importance in some military and naval operations and give information about processes occurring within the cells during periods of shelf storage. For the rapid analysis of many samples of gas the mass spectrograph has been almost indispensable. Current research is being directed particularly to the development of cells to operate at low temperatures, a matter of less importance for civilian than for military use. Several types of low temperature cells have been developed, including those containing methylamine hydrochloride, calcium chloride, and lithium.

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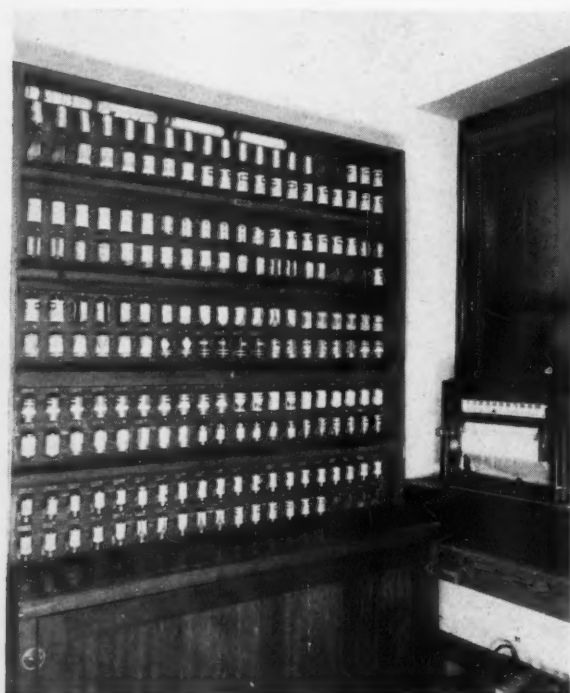


Fig. 2. A test board for flashlight cells at the National Bureau of Standards. Multiple switch and resistance coils for each circuit are housed in the cabinet below. Voltage readings are taken periodically at a switchboard.

Rhode Island Safety Codes

Supplement Labor Laws

State's Industrial Code Commission for Safety and Health uses American Standard Safety Codes to help eliminate accidents due to mechanical or physical failure; has authority to adopt codes, giving them effect of law, and can change them as needed.

By Robert M. Murray

UNTIL the year 1945 the safety laws in our state were written in more or less general terms, stating . . . that it shall be the duty of the proprietor of any factory or work establishment to provide adequate means of egress in case of fire and other disaster . . .; to locate belting, shafting, gearing, elevators, drums, and machines in such a manner as to be sufficiently guarded and not dangerous to employees.

The interpretation of these laws was left to the industrial inspectors who had the responsibility for deciding what preventive measures should be taken by an employer.

Lack of uniformity, and not infrequently a serious deficiency in safety standards, resulted.

The Rhode Island Department of Labor realized that the continued incidence of injuries to industrial workers in the State constituted a serious problem. Such injuries affected the welfare of industrial organizations and the well-being of all our people.

Special Commission Created to Study Safety Codes

Recognizing the need for more effective accident prevention measures, the Department recommended to the Legislature the appointment of a Special Commission to Study and Draft Codes and Rules for Safety and Health in Places of Employment.

The Legislature acted on this recommendation in 1945 and created a Special Commission to study safety and health codes and rules for places of employment, to draft tentative codes and rules, and submit to the

Robert M. Murray is Chief of the Division of Industrial Inspection of the Rhode Island Department of Labor.

next session of the General Assembly suitable legislation to provide for making such safety and health codes and rules effective.

The Commission consisted of five members: two representing labor, two representing industry, and one representing the public. The Directors of the Department of Labor and Department of Health were members ex-officio of the Commission and had no vote.

In the early stages of the proceedings the Special Commission had many preliminary problems to consider.

The facilities of the enforcing authority were studied from the standpoint of personnel, and of the ability of such personnel to administer the rules intelligently and adequately, because the Commission realized that no safety code, no matter how well drafted, is any better than the agency responsible for administering it. For this reason, the Commission had to acquaint itself with these facilities.

The aim of the Special Commission was to construct by means of mandatory requirements a "floor" for safety and health at a level representing the minimum conditions that would be permitted in places of employment.

The Special Commission made a very thorough investigation of the facts concerning the need for codes, by the use of all available accident statistics accumulated in the state over a period of years. These statistics disclosed that many of the accidents in the state were due to mechanical or physical failure. Evidence also showed that man failure accidents were predominant; but the Commission felt that mechanical guarding and the correction of mechanical and physical hazards were fundamental and a "first requirement" in accident prevention. They felt that safety begins with safe tools, safe machines, safe processes, and safe environment.

The result of this study convinced the Commission that uniform standards were necessary throughout our state.

Realizing that any rules developed would be mandatory requirements, it was agreed that the Commission should use, as the starting point in drafting codes, nationally accepted standards which had already been adopted in part or in whole as basic guides in other states.

The Commission decided that American Standards represented seasoned codes of minimum safety rules which had been worked out by representative experts from all branches of the particular field covered; it was therefore agreed that these codes would be used as the basic standards to serve as the starting point in drafting codes for Rhode Island.

Regulations Relaxed for Existing Installations

Consideration was given to the expense of safeguarding existing installations in accordance with applicable American Standard codes. It was decided that these nationally accepted standards would apply as far as possible to new installations, and that they would be relaxed reasonably for existing installations, and to meet local conditions.

Any state intending to include code-making powers to supplement labor laws must consider the expense involved. To start from scratch to develop codes would necessitate a special staff of engineers and necessary clerical assistance. Such a staff would have to do considerable research and bring together manufacturers, distributors, consumers, technical specialists, and others concerned with the particular code being developed. This procedure would

have to be followed as each code was considered.

The use of American Standard codes in preparing state codes furnishes a ready-made groundwork and saves a great deal of preliminary spadework.

In Rhode Island, each member of the advisory committees was furnished with a copy of the particular American Standard code being studied. From this point on, the committee simply had to revise and "tailor" an occasional rule to meet local requirements.

It is important that inspection officials be called into conference in preparatory and preliminary studies, to contribute their experience and their observations in the field in relation to the practicability of enforcing the proposed code.

In considering whether these requirements for using nationally accepted standards as a basis should be written in the basic code-making authority law, the question arose whether or not the Legislature would be improperly or illegally delegating any of its law-making powers.

Legal assistance was obtained from the office of the Attorney General. After consulting some of the most recent decisions of the Supreme Court regarding the constitutionality of delegation of power, counsel's opinion was that the language of the law was proper and that a Supreme Court would be very likely to uphold this constitutionality should the same ever be challenged.

After careful study, this Special Commission recommended to the 1946 General Assembly that legislation be passed for the creation of a permanent code-making body.

Industrial Code Commission Established by Assembly

Consideration was given to the possibility of having legislation enacted for each individual code. However, it was felt that such procedure would prove inadequate because, since the Legislature sits only periodically, it would find itself unable to cope with the tremendous task of providing the detailed regulations which the formation of such codes would demand. These codes embrace many fields, calling for specialists in each. They also call for constant study and revision, due to the demands of the industrial system which is constantly being changed by new functions and new processes.

In 1946 the General Assembly, act-

ing upon the Special Commission's recommendation, passed legislation creating an Industrial Code Commission for Safety and Health, which has been duly appointed and actively engaged in the setting up of industrial safety codes. This law, as written, not only permits the promulgation of codes, but also permits changes and modifications to be made to meet new problems as they arise.

Commission Sets Up Codes with Effect of Law

Since the passage of the Act, advisory committees have been established on various codes. Public hearings have been held, and to date three codes have the effect of law. These are the Code Governing the Use, Care, and Protection of Abrasive Wheels; Safety Code for Mechanical Power-Transmission Apparatus; and Safety Code for Power Presses and Drop Hammers.

A code for new and existing installations of elevators, escalators, and dumbwaiters is now ready for the signature of the Industrial Code Commission. It is anticipated that this code will have the effect of law in the very near future.

Advisory committees are now working on codes for industrial solvents, woodworking machinery, and structural and painters' rigging; and an advisory committee on a Code for Laundry and Dry Cleaning Equipment is in process of formation. To date, all groups concerned, labor, industry, machine manufacturers and distributors, and insurance, have been most cooperative and have given freely of their time and advice, in allowing members of their staffs to attend these advisory committee meetings.

To date, the Division of Industrial Inspection has experienced excellent cooperation on the part of industry in complying with the requirements of the effective codes and of anticipated codes. Many have surveyed their plants, with the aid of industrial inspectors, to ascertain just what will be required on their part to bring their equipment within the provisions of the codes.

The State of Rhode Island realizes that accidents create a humanitarian and an economic loss. Fewer accidents mean less suffering, and also a reduction in compensation rates.

Therefore, in the light of accident prevention work, we expect a brighter future. By the use of these codes we feel we are assured of this.

ASCE Names Barnett to Highway Traffic Committee

The American Society of Civil Engineers has appointed Joseph Barnett, chief of the Urban Road Division, Public Roads Administration, of the Federal Works Agency, as its representative on the Highway Traffic Standards Committee with D. W. Loutzenheiser, Public Roads Administration, as his alternate. The ASCE is the newest organization to join in the work of this committee.



Joseph Barnett

Outmoded Mining Projects Are Discontinued By MSCC

Two projects which are under the supervision of the Mining Standardization Correlating Committee — namely, Specifications for Trolley, Storage Battery and Combination Type Locomotives for Coal Mines, M25, and Specifications for Clean Bituminous Coal, M26—have been discontinued following recommendation of this action by the MSCC and approval by the Standards Council.

These projects are being discontinued at this time because changes in coal mining practices and operations in coal cleaning plants have outmoded the proposed work. It is expected that further study by the MSCC may lead to another project in the field of mine locomotives, but no recommendations have been offered to the Standards Council.

The MSCC is continuing its program of review of other standards and projects in the mining field. Revision of Safety Rules for Installing and Using Electrical Equipment in Coal Mines, M2-1926, is under way. Drafts of revision of Safety Rules for Installing and Using Electrical Equipment in Metal Mines, M24-1932, and Fire Fighting Equipment in Metal Mines, M17-1930, have been prepared. Completion of the personnel of the sectional committee for Project M28 on Safety in Quarry Operations is expected shortly and it is hoped that a meeting of the sectional committee can be held soon.

General Armstrong Joins U. S. Pipe and Foundry Company

Brigadier General Donald Armstrong who has been a member of the staff of the American Standards Association since August 1946 has been named executive vice-president of the United States Pipe and Foundry Company. In addition, he will also serve as a director in the company and as a member of the executive committee.

Until November 1 when General Armstrong assumed this new position, he had been assistant to Howard Coonley, chairman of the executive committee of the American Standards Association. His new connection will not completely sever his relations with the ASA for the U. S. Pipe and Foundry Company is actively concerned with standardization, both as a Company Member in the ASA and as a member of the Cast Iron Pipe Re-

search Association which is a Member-Body of the American Standards Association.

General Armstrong himself has commented: "My departure does not mean the end of my active participation in the ASA. I propose to help the cause of standardization to the maximum possible extent."

General Armstrong may speak with authority on standards because of his experience as Chief of Maintenance, Office Chief of Ordnance, as Executive Officer and Chief of the Chicago Ordnance District, and as Commanding General of the Ordnance Replacement Training Center at Aberdeen, Maryland. His most recent service before his retirement from the Army in August 1946 had been as Commandant of the Industrial College of the Armed Forces.

ommendations. This committee was composed of five members as follows: C. L. Collens, National Electrical Manufacturers Association; H. S. Osborne, ASA Telephone Group; W. R. G. Baker, Institute of Radio Engineers and Radio Manufacturers Association; Virgil M. Graham, Radio Manufacturers Association; and Dr Crittenden who acted as chairman.

Out of their discussions came the proposal that the ESC be reorganized and divided into two sections—Section I, Electric Power, and Section II, Electronics.

This proposal was presented at another special conference held on October 22. At that time, representatives to the conference unanimously approved a recommendation to the Standards Council that it adopt the plan as outlined above, allowing the ESC to work out the details, such as representatives, etc. Since this entails changes in the constitution of the ESC, a letter ballot is being sent to members of the committee. In the meantime, the Standards Council has approved these recommendations pending affirmation by letter ballot.

ESC to be Enlarged to Include Electronics Representatives

At a conference of organizations interested in standards in the fields of electrical engineering and electronics held at the headquarters of the American Standards Association October 22, it was unanimously decided to recommend to the Standards Council that the work of the ASA in these fields be broadened and reorganized. The recommendations of the conference were approved by the Council at its meeting the following day.

Specifically, the Electrical Standards Committee is to be reinforced through the addition of representatives of the various organizations interested in electronics, and the committee, thus enlarged and reconstituted, is to be divided into two sections—one on electric power, and one on electronics. Each of the sections will be presided over by a separate vice-chairman.

This action comes as the final result of much study and discussion which began in July 1946 when the Institute of Radio Engineers first proposed to the ASA that more adequate provision be made in the organization for such a large, important, and growing field as that of electronics.

In view of the many opinions to be considered before making any definite arrangements on the matter, Dr E. C. Crittenden, chairman of the Standards Council, called a conference on the subject on May 27. Representatives of 19 national organizations and members of the ESC were invited to it. The conference was attended by 28 representatives of 14 organizations where the situation was thoroughly examined.

It was quite generally agreed that the developments in recent years in the field of electronics made it necessary to give special consideration to that subject. There was general agreement, also, that, in view of the importance of this field, the Institute of Radio Engineers and the Radio Manufacturers Association are inadequately represented in the present organization of the ASA. Concerning specific proposals to remedy the situation, however, it did not seem possible to formulate a decision which could be accepted by all parties at the time. It was agreed, then, that the chairman of the Standards Council should appoint a small committee to review the problem and make rec-

1947 Dry Cell Standard

(Continued from page 278)

ium chloride as substitutes or as additions to the usual sal ammoniac solutions.

The new American Standard Specification for Dry Cells and Batteries, C18-1947, represents the industry at its best. It covers the first-grade product of manufacturers and includes all the types of batteries commonly used by the public. The sectional committee realizes that changes will occur within a few years which will necessitate further revision of the specification to keep it abreast of changes in the art and new applications for dry cells as they arise.

The American Standard Specification for Dry Cells and Batteries, C18-1947, is being published in Circular No. 466 of the National Bureau of Standards. Copies are available at 10 cents from the American Standards Association or from the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

New NIGP Standards Committee to Apply Simplification to Public Purchasing

A COMMITTEE on standards and tests has just been organized by the National Institute of Governmental Purchasing. Albert Pleydell, general manager, Health Insurance Plan of Greater New York, honorary president of the NIGP, has been named its first chairman.

The problems facing the committee are many, says Mr Pleydell, because the public purchasing agents whom it must serve suffer from a lack of money, lack of personnel, and lack of facilities.

"The problem of our committee, therefore, is to ascertain the areas where the greatest service can most readily be given," he continued. "I expect the committee to include in its first agenda the problem of canvassing a group of typical public purchasing agencies, not so much to find out what their problems are, because we can come fairly close to knowing now, but rather to find out where we can help most effectively and quickly. The first broad objective may well be to survey available, generally accepted specifications and to seek to

establish some criteria for their use in public purchasing.

"Bearing in mind that study of the field of standards and tests is not a scientific exercise, but an effort to sharpen the implements of procurement, I believe our committee will look into these broad areas:

1. Improvement of specifications through dissemination of information concerning their availability, advice as to sources of information where new specifications are being developed, etc. The Joseph survey report at the NIGP conference last September demonstrated that millions of dollars are spent on goods purchased through locally drafted specifications.
2. Improvement in sampling, testing, and inspection techniques. Again, the NIGP-Joseph survey revealed wide variations in practice that indicated great opportunities for improvement in procedures and use of existent available facilities.
3. Study of problems affecting identification, classification, and standardization. We know now that, as a general matter, public purchasing agencies would spend a more effective dollar and business would gain by less costly distribution problems if there were improvement in these fields."

That more standardization of practices and procedures, coupled with simplification of buying methods, is needed was also the consensus among delegates to the convention of the National Institute of Governmental Purchasing at its meeting in New York City in September. At that time, members of the Institute heard the results of the Joseph survey to which Mr Pleydell refers. This survey was conducted among public purchasing agents at all levels of government throughout the country. The survey showed many "diverse influences" but concluded that certain "fundamental public purchasing practices are singularly similar, or parallel, proving the essential agreement of public purchasing men on the basic elements of sound practice."

Among the "wide divergences and extreme variations" uncovered by the survey was the lack of uniformity in nomenclature. Only 27 percent of those purchasing agents replying to the questionnaire indicated that they have a standard nomenclature for
(Continued on page 284)

Gaillard to Give Seminar on Standardization in January

For the benefit of companies and individuals having problems concerning the organization of standardization work or the technique of writing standard specifications, a private seminar is being offered by Dr John Gaillard, mechanical engineer on the staff of the American Standards Association, and lecturer on industrial standardization at Columbia University. This five-day seminar will be held Monday through Friday, January 26 to 30, 1948, in Room 503, Engineering Societies Building, 29 West 39 Street, New York City.

Dr Gaillard will give this seminar because of the interest shown in a similar series of lectures and discussions held in June 1947.

There will be two conferences daily, at 9:30 A.M. and 2:00 P.M., each consisting of a lecture by Dr Gaillard followed by round-table discussion. The ten subjects, briefly in-

dicated below, will be given in the order listed.

1. Development of various types of technical and managerial standards in human society. Increasing significance of standards with evolution of industry to modern mass production methods.
2. Analysis of essential functions of standardization. Conditions required for continuous adaptation of standards to progress in product and process development. Classification of standards.
3. Definition and basic characteristics of the concept "standard." Nominal values, permissible deviations, limits and tolerances. Significance of specified limits. Interchangeability and selective matching.
4. The general problem of quality control. Definition of quality. Inspection and testing. Process control. Quality control charts. Assignment of tolerances based on statistical approach.
5. Dimensional quality control. International basis of interchangeable manufacture. Tolerance systems for cylindrical fits. Review of American, British, and international (ISA) tolerance systems.
6. Specifications for gaging inspection of cylindrical parts. Influence of gage-

maker's tolerances and permissible gage wear on inspection results. Harmonizing workshop, delivery, and acceptance inspection.

7. Four levels of industrial standardization: company, trade, national, and international. The American Standards Association (ASA), foreign national bodies, and the International Organization for Standardization (ISO).

8. Organization and development of standardization work in an individual manufacturing concern. Place of company standards department in management picture. Relations with outside standardization activities.

9. Different forms of application of industrial standardization. Simplification, unification of existing standards, and design of new standards. Use of Preferred Numbers and preferenographs.

10. Principles and technique of formulating standards. Content, form, arrangement, and wording of specifications. Specificity, completeness, and balance between strictness and flexibility of requirements.

Those interested in registration for the January 1948 seminar are requested to write Dr Gaillard at his home address, 400 West 118 Street, New York 27, N. Y. During office hours he may be reached by phone at the ASA, Murray Hill 3-3058.

Industry Favors Legal Basis for Inch-Millimeter-Light Wave Ratio

THE results of a survey to determine the attitude of American industry toward proposed legislation which would legalize the simplified ratio of 25.4 between the millimeter and the inch, and establish a relationship between the inch and a light wavelength, were announced by the Special Committee on Metric Policy to the Standards Council at the Annual Meeting of the American Standards Association.

The Standards Council, in turn, voted to forward these results to the Department of Commerce for use as information in connection with a bill which would legalize the simplified conversion factors. The Committee on Metric Policy had recommended that since the Company Members of the American Standards Association comprise a fairly representative cross section of American industry, their answers to a specific questionnaire on the subject would provide much desired information.

Approximately 2100 Company Members were asked the following three questions:

1. Would the proposed legislation for the simplified ratio of 25.4 between the millimeter and the inch be advisable at this time?
2. Would the proposed legislation establishing a ratio between the inch and a light wavelength, such as the red radiation of cadmium, be advisable at this time?
3. Will the legalization of these proposals be of benefit to your organization?

Of the total number responding to the questionnaire, the majority definitely favored this legal action.

More specifically, of the 468 questionnaires returned, the vote showed 418 affirmative replies to question 1; 360 affirmative replies to question 2; and 246 affirmative replies to question 3.

The proposed legalization of both the English and the metric systems would permit the use of either to the extent that it would be of advantage to do so, either in national or international relations. Since early colonial days, repeated efforts have been made in America to establish national standards of measurement, particularly those concerned with the customary system of weights and meas-

ures. The Constitution of the United States delegates to Congress the power to fix such standards. A standard of length, which could, if necessary, be independently reproduced from physical observations, received frequent consideration and interest from early American Congresses.

A resolution passed by the Senate in 1836 directed the Secretary of the Treasury to supply the governors of each state with a set of all weights and measures used by the Treasury Department in the collection of customs. These included an avoirdupois pound of 7000 grains and a yard of 36 inches. No congressional action was taken to legalize these standards, but several states adopted them independently and a groundwork for uniform weights and measures was at last provided.

It was not until after the Civil War, however, that Congress took a formal step to legalize a system of weights and measures, and this did not relate to those commonly used, but to the metric system. The act of 1866 made the use of metric units lawful throughout the United States. The meter was defined as equivalent to 39.37 inches, while the millimeter was rounded off to 0.0394 inch—this, in spite of the fact that the length of the inch had never been fixed.

Thus, there has existed in this country a legalized system of metric weights and measures used for scientific purposes, and a customary system which is in common use but has never been legalized.

Government Receives Meter Bar and Kilogram

The Government as a participant in the Metric Convention received the platinum-iridium meter bar and kilogram. These, together with the Troy pound, constitute the only legal material standards possessed by the United States. Accordingly, in 1893, the Superintendent of the Coast and Geodetic Survey issued an order to the effect that the Office of Weights and Measures would regard the international prototype meter and kilogram as fundamental standards and the customary units—the yard and

the pound—would be derived therefrom in accordance with the act of July 8, 1866. Thus, 1 inch equals 25.40005+ millimeters. The United States then had a theoretical inch rather than one which could be derived with exactness. Furthermore, the American inch was approximately four-millionths longer than the British inch which derived its value directly from the Imperial Yard.

25.4 Millimeters per Inch Adopted in Common Practice

In the intervening period, it has become common practice for engineering purposes both in the United States and Great Britain, as well as in 13 other countries, to use the simpler relation 1 inch equals 25.4 millimeters exactly. This ratio falls between the present accepted values of the British and the United States inch. It was recognized as a national standard as far back as 1933 when the American Standards Association approved the American Standard Practice for Inch-Millimeter Conversion for Industrial Use, B48.1-1933. This American Standard has recently been reaffirmed, which indicates that those interests substantially concerned are agreed that this relation is representative of standard practice in industry.

To summarize the situation, the United States for 150 years has been using a customary system of weights and measures without "fixing" the standards on which the system is based. A bill was presented to the last Congress with the simple objective of putting the Government's house in order in this respect. The bill provided that the inch should be fixed in terms of the meter by means of a specified ratio. The ratio proposed for the inch was 1 inch equals 0.0254 meter.

The bill also carried a supplementary definition of the inch in terms of light waves. This was based upon the value adopted some ten years ago by the International Committee on Weights and Measures as the number of wavelengths of the red radiation of cadmium in a meter, a value which has been well supported over the years by several independent

determinations. This supplemental definition, if adopted, will legalize the direct use of interference methods in the precise determination of the length of gage blocks and similar working standards.

The Navy Department, in 1945, formally indicated the desirability of this action to the Department of Commerce, as the Navy was finding more and more need for the use of the metric system in meeting the demands of foreign business and also in connection with the need for metric equivalents in certain classes of specifications and standards. Under such conditions legalized conversion ratios would be extremely helpful. The Department of Commerce, receptive to this proposal, prepared a bill including the simpler ratios and the basic unit of length. It was referred to the Director of the Bureau of the Budget, who desired an indication from American industry as to the desirability of the action. The questionnaire, the results of which have just been reported to the Standards Council, was circulated by the American Standards Association in an effort to ascertain industry's viewpoint on this very important question. This information, which Company Members have so cooperatively furnished the Committee on Metric Policy, will be forwarded to the Department of Commerce in the hope that it will be helpful in arriving at the ultimate decision as to whether there shall be legislation on these basic questions of our units of measurement.

NIGP Standards Committee

(Continued from page 282)

products with their own using agencies. A uniform language was generally agreed to be one of the most immediate subjects in need of standardization.

As the goal of a long-range program, most delegates felt that the NIGP should work for the standardization of state laws governing purchasing in order to do away with existing variations. This concern of the National Institute of Governmental Purchasing in legal uniformity is reflected in its interest in the American Standards Association's project on model laws and ordinances, Z56. Governmental buyers have a regard for model laws and ordinances both on the grounds of legal restrictions or lack of statutory authority and in the problems involved in adopting codes and standards by reference.

NBS Reorganization Adds New Divisions

A GENERAL reorganization of the National Bureau of Standards which recognizes the rise of important new scientific activities during the past decade and adds three new technical divisions has been announced by Dr E. U. Condon, director. The present organization of the Bureau is shown on page 285.

The three new technical divisions cover Building Technology, Applied Mathematics, and Atomic Physics. In addition, a single Division of Commodity Standards has been set up combining the former Commercial Standards and Simplified Practice Divisions. This division will be responsible for coordination of the Bureau's activities with the Federal Specifications Board and with non-governmental standardization groups.

New Division Is Federal Mathematics Center

The Division of Applied Mathematics, engaged in basic mathematical research, is in effect a federal center of applied mathematics, oriented around modern mathematical statistics as applied to the physical and engineering sciences and to the development and use of modern high speed computing. It will not only serve the Bureau itself but also the Armed Forces, other governmental units, and private industry. The division is made up of four sections: Statistical Engineering, Computation Laboratory, Machine Development, and Numerical Analysis.

The Office of Naval Research has been instrumental in establishing much of this program and at present is supporting the numerical analysis and computation groups. It has contracted for an electronic computing machine.

Building Division Concerned with Structural Matters

The Building Technology Division was described in the October issue of INDUSTRIAL STANDARDIZATION. It has as its nucleus five sections concerned mainly with the structural aspects of building construction and materials. Its work will be so organ-

ized that groups will be engaged in simultaneous investigations of the properties of materials, structural strength, fire resistance, heating and ventilating characteristics, durability, and structural surfacing materials, Dr Condon announced.

Research in the field of atomic physics has been a part of the Bureau's work since 1913 when the first radium standards, prepared by Madame Curie, entered into the custody of the Bureau. Because of its research activities, the Bureau was asked to initiate the atomic energy project shortly after word of the discovery of the uranium fission reached this country in 1939. The Bureau continues to conduct research in this field for the Atomic Energy Com-

"Full realization of the possibilities inherent in the development of atomic energy, especially the use of the radioactive isotopes in almost every field of science, calls for a great deal of fundamental research," Dr Condon explains. "Wide gaps exist in present knowledge—for example, the nature of the forces within the nucleus of the atom. In the actual use of atomic energy for power a number of engineering difficulties, ranging from minor laboratory problems to rather large scale researches, call for investigation."

Atomic Physics Division Set Up by Bureau

Because it is believed that contributions to these and similar problems by scientists at the Bureau of Standards can best be achieved within a division devoted wholly to atomic study and research, the new Atomic Physics Division has been set up. The installation of a 50-million volt betatron and the construction of a mass spectrometer designed for precise determination of atomic masses are expected to extend the scope of the work. Plans announced recently by the National Bureau of Standards indicate that a second betatron may also be erected enabling scientists to extend research, measurements, and standards development into the 100-million volt range as well as into the 50-million volt range.

The National Bureau of Standards Scientific and Technical Divisions

Dr E. U. Condon, Director

Dr E. C. Crittenden, Associate Director

Dr W. R. Brode, Associate Director

I. Electricity and Optics

F. B. Silsbee, Chief

K. S. Gibson, Assistant Chief

- 1.1 Resistance Measurements
- 1.2 Inductance and Capacitance
- 1.3 Electrical Instruments
- 1.4 Magnetic Measurements
- 1.5 Photometry and Colorimetry
- 1.6 Optical Instruments
- 1.7 Photographic Technology
- 1.8 Electrochemistry

2. Metrology

W. Souder, Chief

D. R. Miller, Assistant Chief

- 2.1 Length
- 2.2 Mass
- 2.3 Time
- 2.4 Capacity and Density
- 2.5 Gas Measurement
- 2.6 Thermal Expansion
- 2.7 Dental Materials
- 2.8 Scales
- 2.9 Limit Gages

3. Heat and Power

F. G. Brickwedde, Chief

C. S. Cragoe, Assistant Chief

- 3.1 Temperature Measurements
- 3.2 Thermodynamics
- 3.3 Cryogenics
- 3.4 Lubrication
- 3.5 Automotive
- 3.6 Aircraft Engines

4. Atomic Physics

E. U. Condon, Chief

R. D. Huntoon, Assistant Chief

- 4.1 Spectroscopy
- 4.2 Electronics
- 4.3 Mass Spectrometry
- 4.4 Radioactivity
- 4.5 X-Rays
- 4.6 Atomic Physics

5. Chemistry

G. E. F. Lundell, Chief

E. Wichers, Assistant Chief

- 5.1 Paint, Varnish, and Lacquer
- 5.2 Surface Chemistry
- 5.3 Organic Chemistry
- 5.4 Analytical Chemistry
- 5.5 Reagents and Platinum Metals
- 5.6 Electrodeposition
- 5.7 Gas Chemistry
- 5.8 Physical Chemistry
- 5.9 Thermochemistry
- 5.10 Spectrochemistry
- 5.11 Uranium and Related Materials

6. Mechanics

W. Ramberg, Chief

L. B. Tuckerman, Assistant Chief

- 6.1 Sound
- 6.2 Mechanical Instruments
- 6.3 Aerodynamics
- 6.4 Engineering Mechanics
- 6.5 Hydraulics

7. Organic and Fibrous Materials

A. T. McPherson, Chief

P. L. Wormeley, Assistant Chief

- 7.1 Rubber
- 7.2 Textiles
- 7.3 Paper
- 7.4 Leather
- 7.5 Testing and Specifications
- 7.7 Organic Plastics

8. Metallurgy

J. G. Thompson, Chief

W. F. Roeser, Assistant Chief

- 8.1 Optical Metallurgy
- 8.2 Thermal Metallurgy
- 8.3 Mechanical Metallurgy
- 8.4 Chemical Metallurgy
- 8.5 Experimental Foundry
- 8.6 Underground Corrosion

9. Mineral Products

H. Insley, Chief

- 9.1 Porcelain and Pottery
- 9.2 Glass
- 9.3 Refractories
- 9.4 Enameled Metals
- 9.5 Building Stone
- 9.6 Concreting Materials
- 9.7 Constitution and Microstructure
- 9.8 Chemistry of Mineral Products

10. Building Technology

D. E. Parsons, Chief

G. N. Thompson, Assistant Chief

- 10.1 Structural Engineering
- 10.2 Fire Protection
- 10.3 Heating and Air Conditioning
- 10.4 Exterior and Interior Coverings
- 10.5 Codes and Specifications

11. Applied Mathematics

J. H. Curtiss, Chief

E. W. Cannon, Assistant Chief

- 11.1 Numerical Analysis
- 11.2 Computation Laboratory
- 11.3 Statistical Engineering
- 11.4 Machine Development

12. Commodity Standards

E. W. Ely, Chief

F. W. Reynolds, Assistant Chief

- 12.1 Metal and Ceramic Products
- 12.2 Textiles and Apparel
- 12.3 Mechanical Equipment
- 12.4 Packaging
- 12.5 Chemical Products

13. Ordnance Development

H. Diamond, Chief

A. V. Astin, Assistant Chief

- 13.1 Ordnance Tests and Evaluation
- 13.2 Ordnance Research
- 13.3 Ordnance Electronics
- 13.4 Ordnance Mechanics
- 13.5 Ordnance Engineering
- 13.6 Engineering Electronics
- 13.7 Guided Missiles
- 13.8 Guided Missile Electronics
- 13.9 Electron Tube Laboratory
- 13.10 Electronic Computers

14. Central Radio Propagation Laboratory

J. H. Dellinger, Chief

Newbern Smith, Assistant Chief

- 14.1 Basic Ionospheric Research
- 14.2 Basic Microwave Research
- 14.3 Regular Propagation Services
- 14.4 Frequency Utilization Research
- 14.5 Experimental Ionospheric Research
- 14.7 Field Operations
- 14.8 High Frequency Standards
- 14.9 Microwave Standards

NEMA Approves New Motor Standards

New performance standards for industrial type integral horsepower three-phase squirrel-cage induction motors of 1 to 200 horsepower have been announced by the National Electrical Manufacturers Association.

These standards are of unusual significance to the industrial motor user, NEMA states, because they provide a sound basis for selecting the right motor for any industrial application, simplify the specification of minimum acceptable limits of operating performance, and assure interchangeability of motors made by different manufacturers.

The new performance standards which will become effective January 1, 1948, define five basic types of polyphase induction motors, each of which offers a different combination of torque, speed, and current characteristics to meet the operating requirements of various industrial applications.

It was pointed out that the five motor types do not represent new departures in design, but, rather, apply standard nomenclature to accepted practice in the electric motor industry.

Two New Member-Bodies Lend Support to ASA Work

THE work of the American Standards Association will receive the added support of the American Ladder Institute and the Conveyor Equipment Manufacturers Association through their participation in Association activities as new Member-Bodies of the organization.

The American Ladder Institute's membership is composed of the leading ladder manufacturers in the United States, the majority of whom manufacture both step and long rung ladders, in addition to scaffolding of various types. The ladder industry is one of America's oldest—the member firms averaging 53 years in the business with one company manufacturing for 102 years and several in the 90-year bracket.

According to the Institute, considerable difference in the methods of manufacture and types of ladders manufactured in the West as compared to the East has always existed; in fact, there are distinct western and eastern types of long rung ladder, originally developed to suit local conditions. They have, therefore, a variance as to standards—each section feeling that its standard is satisfactory and the best produced—and this has been backed up by long usage. Various attempts have been made to compromise on an adequate standard which would fit both sections of the country.

ALI Seeks to Reconcile Ladder Manufacturing Practices

"The American Ladder Institute has felt that there was some way of reconciling the various ladder manufacturing practices," says James P. Ward, executive secretary of the Institute. "Knowing the outstanding work that the American Standards Association has done in this field and others of similar nature, it was decided to cooperate fully with the ASA and other organizations in the field to develop for the United States practical, workable standards which would insure the buyers of ladders the best possible, and safest product that could be manufactured.

"The members of the American Ladder Institute will cooperate fully

with the new standards being developed by the ASA Sectional Committee on the Safety Code for the Construction, Care and Use of Ladders, A14. However, the American Ladder

Institute realizes that this is not sufficient. Tangible means of doing this should be developed to acquaint the trade and the buyers as to what good ladder standards are, the proper use and maintenance of ladders, and the fact that there is a policing problem to protect the public.

"To achieve this end, the American Ladder Institute plans to manufacture all ladders at the minimum or above as set forth in the final code arrived at by the A14 committee; to

New Members of Standards Council

THE following new appointments have been made by Member-Bodies to the Standards Council, top authority on technical work of the American Standards Association:

American Institute of Electrical Engineers—

Reginald L. Jones, of the Bell Telephone Laboratories, succeeding Dr H. S. Osborne whose term expires December 31, 1947. Dr Jones is a representative on the Company Member Committee and the Electrical Standards Committee;

R. C. Bergvall, Westinghouse Electric Corporation, as alternate to Dr Jones;

J. R. North, Commonwealth and Southern Corporation, as alternate. He is a member of the Sectional Committee on Insulators for Electric Power Lines, C29. Mr North also represents the Electric Light and Power Group on sectional committees on Lightning Arrestors for Alternating Current Power Circuits, C62; Transformers, Regulators, and Reactors, C57; and Rotating Electrical Machinery, C50;

E. B. Paxton, of the General Electric Company, continues to act in his capacity as alternate. In addition to being a member of the Electrical Standards Committee and the Board of Review, he is also a representative to the U. S. National Committee of the International Electrotechnical Commission and to the Sectional Committee on Definitions of Electrical Terms, C42; chairman of Sectional Committee C50; and secretary of Sectional Committee C57. Representing the National Electrical Manufacturers Association, he is a member of Sectional Committee Z35 on Specifications for Accident Prevention Signs, and an alternate on the committee

for Letter Symbols and Abbreviations for Science and Engineering, Z10.

Anti-Friction Bearing Manufacturers Association, Inc.—

Maurice Stanley, president of the Fafnir Bearing Company.

Asphalt Roofing Industry Bureau—

E. H. Berger, Johns Manville Company;

John Robertson, of the U. S. Gypsum Company, as his alternate. Mr Robertson represents the American Society for Testing Materials on Sectional Committee A42 on Specifications for Plastering.

Housing and Home Finance Agency—

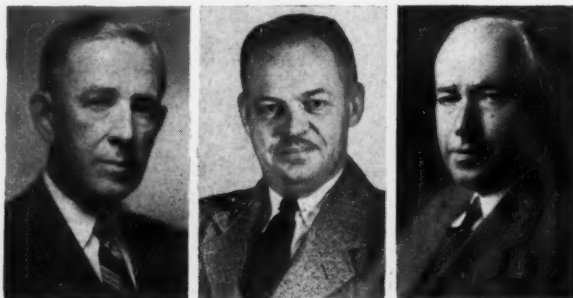
Leonard G. Haeger, director of the technical office of the Housing and Home Finance Agency, succeeds William V. Reed for his unexpired term ending December 31, 1948. Mr Haeger is a member of the Z56 Sectional Committee on Model Laws and Ordinances.

National Aircraft Standards Committee—

C. Heywood, standards engineer of the Chance Vought Aircraft of the United Aircraft Corporation, replaces L. Catlin as alternate for Gordon T. Waite.

National Office Management Association—

E. H. Conarroe, of the Metropolitan Life Insurance Company, as an alternate to the representative, not named as yet. Mr Conarroe is also an alternate on the Sectional Committee for Office Standards.



Left to right: R. L. Jones, Leonard G. Haeger, and Maurice Stanley.

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educate the jobber and dealer as to what these minimum standards are, the proper use for which various types of ladders are made, in order that they may recommend to their customers the right ladder for the job; and to inform the ladder buyer of the minimum requirements in ladders, recommend the right ladder for the job, and the proper method of using and caring for the ladder after purchase. This whole program will be backed up by national advertising. We hope to make the standards developed by the A14 committee a criterion and a guide for the industrial and individual buyers of ladders throughout the United States."

The Conveyor Equipment Manufacturers Association is, as its name implies, an organization for manufacturers of conveying equipment or conveyor systems. Under such a general classification would come such groups as those who manufacture heavy conveyors, package conveyors, portable conveyors, coal preparation plants, screw conveyors, and trolley conveyors.

Membership in CEMA carries with it membership in the Machinery and Allied Products Institute, which speaks for the capital goods industry.

CEMA Provides Much Information for Industry

The CEMA performs many services for its members, among them the preparation of reports, charts, and bulletins all aimed at having important information reach the industry.

In addition, the Washington office acts as a clearinghouse for interindustry matters through cooperation with other associations. Also, at any specific time, it will get information on government regulations and services for members, will serve as a representative of the industry on occasion, and acts in an advisory capacity to governmental offices and government officials.

On its program for the coming year is an industry promotion program aimed at engineering students who may be interested in material handling as a career.

As far as any standardization program is concerned, the Association has no plans to announce at present, reports R. C. Sollenberger, executive secretary of the CEMA. "Our Technical Committee will recommend on this at a later date. At present, they are reviewing the proposed ASA Safety Code for Conveyors, Cableways, and Related Equipment, B20.

ASA

Standards Activities

American Standards Approved

Safety Code for Conveyors, Cableways, and Related Equipment, B20.1-1947

Sponsors: National Conservation Bureau; American Society of Mechanical Engineers

Carbon-Silicon Steel Plates of Ordinary Tensile Ranges for Fusion-Welded Boilers and Other Pressure Vessels (Revision of ASTM A201-44; ASA G31.1-1945), ASTM A201-46; ASA G31.1-1947

Chrome-Manganese-Silicon (CMS) Alloy Steel Plates for Boilers and Other Pressure Vessels (Revision of ASTM A202-44; ASA G32.1-1945), ASTM A202-46; ASA G32.1-1947

Molybdenum-Steel Plates for Boilers and Other Pressure Vessels (Revision of ASTM A204-44; G34.1-1945), ASTM A204-46; ASA G34.1-1947

High Tensile Strength Carbon-Steel Plates for Boilers and Other Pressure Vessels (Plates 4½ In. and Under in Thickness) (Revision of ASTM A212-44; ASA G35.1-1945), ASTM A212-46; ASA G35.1-1947

Forged or Rolled Alloy Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service (Revision of ASTM A184-44; ASA G37.1-1944), ASTM A182-46; ASA G37.1-1947

Structural Steel for Locomotives and Cars (Revision of ASTM A113-42; ASA G39.1-1942), ASTM A113-46; ASA G39.1-1947

Forged or Rolled Steel Pipe Flanges for General Service (Revision of ASTM A181-42; ASA G46.1-1942), ASTM A181-46; ASA G46.1-1947

Free-Cutting Brass Rod and Bar for Use in Screw Machines (Revision of ASTM B16-46; ASA H8.1-1946), ASTM B16-47; ASA H8.1-1947

Copper and Copper-Base Alloy Forging Rods, Bars, and Shapes (Revision of ASTM B124-46; ASA H7.1-1946), ASTM B124-47; ASA H7.1-1947

Copper Water Tube (Revision of ASTM B88-46; ASA H23.1-1946) ASTM B88-47; ASA H23.1-1947

Zinc (Hot-Galvanized) Coatings on Structural Steel Shapes, Plates, and Bars and Their Products (Revision of ASTM A123-33; ASA G8.1-1933), ASTM A123-47; ASA G8.1-1947

Proprietary Sponsor: American Society for Testing Materials

American Standards Reaffirmed

Dimensions for Film Pack Tabs and Films, Z38.1.1-1941 Reaffirmed 1947

Dimensions for Film Pack Cases, Z38.1.2-1941 Reaffirmed 1947

Sponsor: Optical Society of America

Standards Being Considered for Approval

Building Regulations for Reinforced Con-

Standards Being Considered for Approval—Continued

crete (ACI 318-47) (Revision of A89.1-1946)

Proprietary Sponsor: American Concrete Institute

Safety Code for the Use, Care, and Protection of Abrasive Wheels (Revision of B7-1943), B7

Sponsors: Grinding Wheel Manufacturers Association; International Association of Industrial Accident Boards and Commissions

Malleable Iron Castings (Revision of ASTM A47-33; G48.1-1942), G48.1

Cupola Malleable Iron (Revision of ASTM A197-39; G49.1-1942), G49.1

Sponsor: American Society for Testing Materials

Practice for Microfilms, Z38.7.8

Sponsor: Optical Society of America

Standards Submitted for Approval

Sheet and Plate Materials Used in Electrical Insulation (Revision of ASTM D229-43; ASA C59.13-1944)

Laminated Tubes Used in Electrical Insulation (Revision of ASTM D348-42; ASA C59.14-1943)

Laminated Round Rods Used in Electrical Insulation (Revision of ASTM D349-42; ASA C59.15-1943)

Lampblack (Revision of ASTM D209-46; ASA K26.1-1946)

Bone Black (Revision of ASTM D210-46; ASA K36.1-1946)

Chrome Yellow and Chrome Orange (ASTM D211-43; ASA K27.1-1943)

Reduced Chrome Green (Revision of ASTM D213-41; ASA K28.1-1941)

Iron Blue (Revision of ASTM D261-46; ASA K29.1-1946)

Reduced Para Red (Revision of ASTM D264-41; K31-1941)

Zinc-Coated (Galvanized) Iron or Steel Sheets (Revision of ASTM A93-27; ASA G8b1-1931)

Chemical Analysis of White Pigments (Revision of ASTM D34-39; ASA K15-1939)

C. P. Zinc Yellow (Zinc Chromate) (Revision of ASTM D478-41; ASA K50-1941)

Sponsor: American Society for Testing Materials

New Project Initiated

Designations for Rayons, L20

Revisions Under Consideration

Billet-Steel Bars for Concrete Reinforcement, ASTM A15-39; ASA A50.1-1939

Rail-Steel Bars for Concrete Reinforcement, ASTM A16-35; ASA A50.2-1936

Axle-Steel Bars for Concrete Reinforcement, ASTM A160-39; ASA G43.1-1942

Proprietary Sponsor: American Society for Testing Materials

Projects Under Way

Building Code Requirements for Signs and Outdoor Display Structures, A60—

Sponsors: American Municipal Association; Outdoor Advertising Association of America

A number of modifications in the text of a fifth draft were made at the last meeting of the sectional committee on November 3. The changes made resulted from suggestions submitted by the Outdoor Advertising Association of America and the National Electric Sign Association. Proposals from the Rohm and Haas Company to permit the wider use of plexi-glass on signs were referred to a subcommittee.

The committee is hopeful that another draft can be prepared and circulated for letter ballot action in January.

Transformers, Regulators, and Reactors, C57—

Sponsor: Electrical Standards Committee

A letter ballot of the sectional committee is being taken on the approval of 16 proposed American Standards for transformers, regulators, and reactors, including test codes, and guides for operation.

The proposed standards, listed below, are revisions of American Standards for Transformers, Regulators, and Reactors, C57.1-1942, C57.2-1942, and C57.3-1942, and when approved will be issued under a single cover:

Terminology for Transformers, Regulators, and Reactors, C57.10

General Requirements for Transformers, Regulators, and Reactors, C57.11

Distribution, Power, and Regulating Transformers, and Reactors Other Than Current-Limiting Reactors, C57.12

Instrument Transformers, C57.13

Constant-Current Transformers of the Moving Coil Type, C57.14

Step-Voltage and Induction-Voltage Regulators, C57.15

Current-Limiting Reactors, C57.16

General-Purpose Specialty Transformers, C57.17

Test Code for Distribution, Power, and Regulating Transformers, C57.22

Test Code for Instrument Transformers, C57.23

Guide for Operation of Transformers, Regulators, and Reactors at Altitudes Greater Than 3300 Feet (1000 Meters), C57.31

Guide for Loading Oil-Immersed Distribution and Power Transformers, C57.32

Guide for Loading and Operation of Instrument Transformers, C57.33

Guide for Loading Pole-Type Constant-Current Transformers, C57.34

Guide for Loading Step-Voltage and Induction-Voltage Regulators, C57.35

Guide for Loading Current-Limiting Reactors, C57.36

Those sections dealing with rectifier transformers of the proposed American Standards for transformers, regulators, and reactors, C57/41, were not included in the above C57 letter ballot because a subgroup of Sectional Committee on Mercury-Arc Rectifiers, C34, was revising rectifier transformer requirements in connection with

AIEE Report No. 6 on Pool Cathode Mercury-Arc Rectifiers.

Since then, the chairman of Sectional Committee C34 has sent in the recommendations of the C34 subgroup on rectifier transformers for inclusion in the C57 standards. A second letter ballot was sent to the C57 committee covering those parts of the American Standards for transformers, regulators, and reactors pertaining to rectifier transformers, as modified by the C34 subgroup.

Domestic Electric Flatirons and Other Heat-Producing Portable Household Electric Appliances, C70—

Sponsor: National Electrical Manufacturers Association

The Electrical Standards Committee has approved the change of the title and scope of Sectional Committee C70 on Domestic Electric Flatirons. The change provides that all portable electrical appliances in which the production of heat energy is the primary consideration come within the scope of the project. (See INDUSTRIAL STANDARDIZATION, October 1947, page 262).

Textile Test Methods, L14—

Sponsors: American Association of Textile Chemists and Colorists; American Society for Testing Materials

As a result of the work of the subcommittee on Existing Test Methods of the Sectional Committee on Textile Test Methods, L14, the American Association of Textile Chemists and Colorists and the American Society for Testing Materials have presented a number of their standard test methods to the sectional committee for consideration as American Standards. At the October 16 meeting of this committee, it was voted that these test methods be circulated for letter ballot action of the sectional committee.

Most of the 11 test methods submitted by the AATCC are concerned with colorfastness of textiles under various conditions. Of the 38 ASTM standards, 31 deal with methods of testing for different types of fabrics and yarns.

Designations for Rayons, L20—

The Consumer Goods Committee has formally approved the initiation of a project on Designations for Rayons. When the National Retail Dry Goods Association referred the question of informative labelling or designations for rayons to the American Standards Association, a small informal conference was called which recommended to the Consumer Goods Committee that such a project be initiated and handled by the General Acceptance Method.

Under the General Acceptance Method, a conference of interested groups is held. The standard developed by this conference is then circulated and when a sufficient number of written acceptances are obtained, the proposed standard is submitted to the ASA for approval.

The project will attempt to set up descriptive terms which will differentiate

between cellulose types and cellulose acetate types of fabrics and yarns. The tentative scope is:

"Designation for yarns, fibers, and fabrics made from regenerated cellulose and designation for yarns, fibers, and fabrics made from cellulose acetate."

The Consumer Goods Committee agreed at its meeting on November 19 that it would be desirable if each member urged his organization to request the Federal Trade Commission to call a conference at which the 1937 rayon rules would be reconsidered to permit more adequate differentiation between cellulose acetate and regenerated cellulose fabrics. It was also voted that the subcommittee appointed to write a proposed standard on designations for rayons prepare a report that would be available if and when such a hearing is held.

Letter Symbols and Abbreviations for Science and Engineering, Z10—

Sponsors: American Association for the Advancement of Science; American Institute of Electrical Engineers; American Society of Civil Engineers; American Society of Mechanical Engineers; American Society for Engineering Education

Reports of all active subcommittees of the Sectional Committee on Letter Symbols and Abbreviations for Science and Engineering, Z10, were given at a meeting held October 22 at the Waldorf-Astoria in New York.

Subcommittee 3 on Symbols for Mechanics recommended that American Standard Symbols for Mechanics of Solid Bodies, Z10.3-1942, be reaffirmed as its investigation had shown it to be up to date. It suggested one addition, an alternate symbol for Poisson's Ratio. When reaffirmed, the addition will be made on existing stock copies of the standard by means of a special stamp.

It was voted that a sectionalized division be added to the Proposed American Standard Letter Symbols for Physics. This would facilitate the use of the list by segregating the symbols into logical categories and users of the symbols could discriminate quickly between primary and secondary uses of the letters.

Professor Edward Bennett, chairman of Subcommittee 8 on Letter Symbols for Electrical Quantities, presented his report on the work of his subcommittee and distributed proof sheets of a draft of the proposed revision of the American Standard Letter Symbols for Electrical Quantities, Z10g1-1929. A few minor changes were suggested and these will be incorporated in the final draft which will be issued very shortly.

Safety Code for Grandstands, Tents, and Places of Outdoor Assembly, Z20—

Sponsors: Building Officials Conference of America, Inc.; National Fire Protection Association

Suggested changes in requirements for exit ways from large permanent grandstands and stadiums were considered at a meeting of the sectional committee held November 5. Further study and perhaps another meeting of the sectional committee will be required before final action on any suggested revisions can be taken.

Acoustical Measurements and Terminology, Z24—

Sponsor: Acoustical Society of America

Several subcommittees of Sectional Committee Z24 are actively engaged in revising and developing American Standards falling within the scope of the project.

Subcommittee A is now reviewing the entire edition of American Standard Acoustical Terminology, Z24.1-1942, and expects a complete revision of the standard. Proposed definitions for terms used in underwater sound work are being developed by a subgroup.

The proposed revision of the American Recommended Practice for Calibration of Microphones, Z24.4-1938, was considered at a meeting of subcommittee B at its May 9, 1947 meeting, but certain modifications deemed necessary have yet to be worked on. A proposed American Standard Specification for Laboratory Standard Pressure Microphones, Z24.8/140, is now being circulated to members of a working group of Subcommittee B.

Modifications in the draft specification on audiometers suggested at the July meetings of Subcommittee F (see INDUSTRIAL STANDARDIZATION, August 1947, page 206) are being incorporated in a second draft for circulation to the subcommittee.

The proposed standard for Coupler Calibration of Earphones, Z24.9/127, containing revisions suggested at the May 9 meeting of Subcommittee B, has been distributed to the sectional committee for comment and criticism prior to letter ballot action.

Graphical Symbols and Abbreviations for Use on Drawings, Z32—

Sponsors: American Institute of Electrical Engineers; American Society of Mechanical Engineers

A revised list of the personnel of Sectional Committee Z32 and the scope for the project have been submitted to the Board of Examination for recommendation to the Standards Council.

At the meeting of Subcommittee 1 on Mechanical Symbols, Subgroup 2 on Heating, Ventilating, Refrigeration, and Air Conditioning Symbols reported that it has circulated the list of symbols it has compiled to interested firms and organizations for comment. A subcommittee of the Sectional Committee on Refrigeration Nomenclature, B53, is compiling refrigeration symbols which, when approved by that sectional committee, will be incorporated into the standard under preparation by Subgroup 2. Other subgroups working on symbols for welding, plumbing fixtures, pipe fittings and valves, heat-power equipment, structural steel, marine, machine tool, and processing are going ahead with the preparation of their lists of graphical symbols.

The subcommittee voted to publish each category of symbols separately. For general use in a given industry, however, the various sections may be combined into one book for use in that industry.

Standardization in the Field of Still Photography, Z38—

Sponsor: Optical Society of America

During discussions held in recent meetings of Sectional Committee Z38, it was agreed that safety requirements for photographic apparatus, processes, etc., should

come within the scope of the committee. Certain types of apparatus for which the committee is responsible, such as contact and projection printers, lantern slide projectors and safelights, as well as the high voltage necessary to actuate high-speed electric discharge flash lamps, constitute safety hazards, the committee decided.

The Optical Society of America, as sponsor, requested on February 18 of this year that the scope be expanded to cover such safety requirements, and this request is now being considered by the Electrical Standards Committee and the Safety Code Correlating Committee. The matter will later be referred to the Board of Examination, together with any comments received, for its recommendation to the Standards Council.

The proposed extension for the scope of the projects will include "safety in the field of application of photography (but not including operations involved in the manufacture of photographic materials), including hazards to personnel, deterioration of photographic supplies, equipment, and laboratories resulting from unsafe practices or conditions of weather, fire, radiation, chemical action, electrical or structural hazards."

Consumer Goods Committee—

Final approval was given at the October 23 meeting of the Standards Council to the change in title of the Advisory Committee on Ultimate Consumer Goods. This correlating committee will now be known as the Consumer Goods Committee.

New ISO Offices Opened in Geneva

The new offices of the International Organization for Standardization at Geneva have been opened as of December 1. Files and papers of the ISO which had been held by the provisional secretariat in London have now been turned over to Henry St Leger, general secretary of the organization.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946

Of INDUSTRIAL STANDARDIZATION, published monthly at New York, N. Y., for Oct. 1, 1947.

State of New York, County of New York, ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Ruth E. Mason, who, having been duly sworn according to law, deposes and says that she is the editor of the INDUSTRIAL STANDARDIZATION and that the following is, to the best of her knowledge and belief, a true statement of the ownership, management (and if a daily, weekly, semiweekly, or triweekly newspaper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Acts of March 3, 1933 and July 2, 1946 (section 537, Postal Laws and Regulations), printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, American Standards Association, 70 East 45th Street, New York 17, N. Y. Editor, Ruth E. Mason, 70 East 45th Street, New York 17, N. Y. Managing Editor, none. Business Manager, none.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.) American Standards Association, 70 East 45th Street, New York 17, N. Y., Frederick R. Lack (Vice-President, Western Electric Company, Inc., New York) President, 70 E. 45th Street, New York 17, N. Y. P. G. Agnew, Secretary, 70 East 45th Street New York 17, N. Y.

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5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown above is (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.)

RUTH E. MASON,
Editor.

Sworn to and subscribed before me this 12th day of September, 1947.
(Seal)

LYDIA I. GUSTAFSSON.
(My commission expires March 30, 1949.)

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.....	C12a-1947	Revisions to the Code for Electricity Meters These revisions, which were approved as an American War Standard in 1942 in order to extend the schedule for periodic testing of watthour meters, have now been approved as an American Standard in substantially the same form. They are intended for use with the American Standard Code for Electricity Meters, C12-1941. (Sponsors: National Bureau of Standards; Association of Edison Illuminating Companies; Edison Electric Institute.)	.25
.....	G17.3-1947	Forged or Rolled Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service, Specifications for (ASTM A105-46) Manufacturing practice, heat treatment, chemical composition, and tests are given in this revision of the 1940 standard.	.25
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.....	G32.1-1947	Chrome-Manganese-Silicon (CMS) Alloy-Steel Plates for Boilers and Other Pressure Vessels, Specifications for (ASTM A202-46) These specifications cover two designated high tensile strength ranges for use in boilers and other pressure vessels. They are a revision of the 1945 standard.	.25
.....	G34.1-1947	Molybdenum-Steel Plates for Boilers and Other Pressure Vessels, Specifications for (ASTM A204-46) Three designated high tensile strength ranges, intended particularly for fusion welding, for use in locomotive boiler shells, boilers for stationary service, and other pressure vessels, are covered by this revision of the 1945 standard.	.25
.....	G35.1-1947	High Tensile Strength Carbon-Silicon-Steel Plates for Boilers and Other Pressure Vessels, Specifications for (ASTM A212-46) These specifications, a revision of the 1945 standard, cover two designated high tensile strength ranges, for use in locomotive boiler shells, boilers for stationary service, and other pressure vessels. The above standards in the G series are sponsored by the American Society for Testing Materials.	.25
.....	L1.1-1947	Textile Safety Code The requirements of this code apply to the design, installation, processes, operation, and maintenance of textile machinery, equipment, and other plant facilities in all plants engaged in the manufacture and processing of textiles and textile manufacture. It is intended for adoption by regulatory bodies and for use as a voluntary standard to provide safety to workers. (Sponsor: National Safety Council.)	.50
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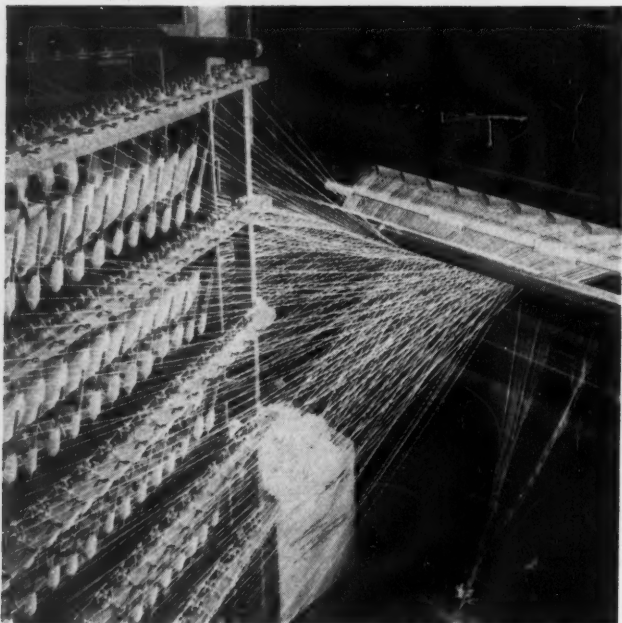
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